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ABSTRACT

The aim of this seminar was to draw attention to the necessity of a fundamental reform in school curricula to make them more adapted to the diversified challenges of the 21st century and to determine what concrete actions should be taken to achieve this goal. Another objective was the intellectual preparation of countries concerned for constructive participation in the September 2001 International Conference on Education. This final report of the seminar is divided into seven parts and three annexes. Parts 1 and 2 give an overall picture of the state of the art in regard to curriculum development in the face of the tremendous changes taking place at the present time and the multiple challenges education must face at the beginning of a new century. Parts 3 to 6 discuss the events of the Oman seminar, its outcomes, and an evaluation of its achievements. Part 7 reproduces the final recommendations approved by the Plenary of the seminar, including some follow-up actions that should soon be addressed. Annex 1 provides statistics on Gulf education and supporting economy; Annex 2 includes opening and closing speeches; and Annex 3 contains a list of seminary participants. (Author/RT)

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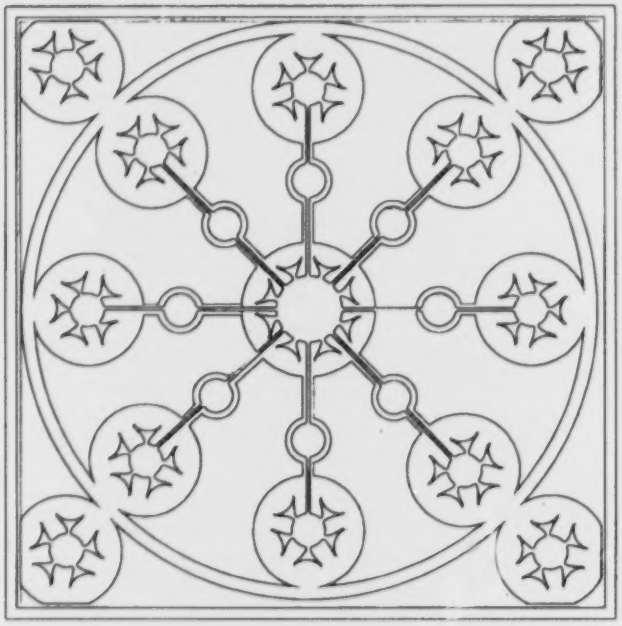
FINAL REPORT OF THE SEMINAR HELD IN MUSCAT, OMAN, 17–21 FEBRUARY 2001



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Edited by Shapour Rassekh and Jeannine Thomas

INTERNATIONAL BUREAU OF EDUCATION
THE OMANI NATIONAL COMMISSION FOR UNESCO

Contents

FOREWORD, *page 3*

INTRODUCTION: The dynamics of educational change for the twenty-first century—the emergence of the networking paradigm, *by Cecilia Braslavsky, page 4*

PART I: Curriculum development in the twenty-first century—new challenges

- The challenges facing education in the twenty-first century: contributions of the IBE, *by Cecilia Braslavsky, page 6*
- The challenges facing education and curriculum development at the beginning of the twenty-first century, *by Shapour Rassekh, page 9*

PART II: The management of curriculum adaptation for curriculum specialists from the Gulf countries—a round-table on curriculum change

- Planning curriculum reforms: some reflections, *by Shapour Rassekh, page 20*
- Planning for curriculum review and related education system reform, *by Tony Macelli, page 22*
- The management of curriculum change, *by Ashok Ganguly, page 48*
- The monitoring and evaluation of curriculum reforms, *by Phillip Hughes, page 53*

PART III: Summary of the proceedings, *page 62*

PART IV: Country reports

- Management of curriculum revision and change: a synthesis of the national reports, *page 72*

PART V: Reports from regional institutions

- The role of ABEGS in the development and renovation of school textbooks and curricula, *by Humaidan A. Al-Humaidan, page 82*
- The role of UNESCO in the promotion and implementation of contemporary trends in education, *by Abdalla Bubtana, page 85*

PART VI: Contributions and recommendations of the three discussion groups, *page 88*

PART VII: Final report and recommendations approved by the Plenary, *page 94*

ANNEXES

I: The Gulf Region at a glance, *page 97*
II: Opening and closing speeches, *page 101*
III: List of participants, *page 105*

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Foreword

The Seminar on the Management of Curriculum Change and Adaptation in the Gulf Region, organized by the International Bureau of Education (IBE) and the Omani National Commission for UNESCO, took place in Muscat from 17 to 21 February 2001. It was one of the series of seminars/workshops that the IBE has organized during 1998–2001 in different regions of the world in order to exchange views and experiences with the responsible experts and authorities in the field of curriculum development and educational contents.[1] The aim has been to draw attention to the necessity of a fundamental reform in school curricula to make them more adapted to the momentous and diversified challenges of the twenty-first century and, at the same time, to seek in a collaborative manner what type of response should be made to that necessity through concrete actions. Another objective was the intellectual preparation of the countries concerned for constructive participation in the forty-sixth session of the International Conference on Education, to be held in Geneva in September 2001.

As is indicated in this publication, five countries of the region participated in the seminar, in addition to the Arab Bureau of Education for the Gulf States and the UNESCO Bureau of Education in Qatar. A great number of specialists from these countries and several international experts contributed their valuable experience, which ensured the success of the seminar.

The final report of the seminar is divided into seven parts and three annexes. Parts I and II give an overall picture of the state of the art in regard to curriculum development in the face of the tremendous changes taking place at the present time and the multiple challenges which education must face at the beginning of a new century. Parts III to VI reflect the events of the Oman seminar, its outcomes, as well as an evaluation of its achievements. Part VII reproduces the final recommendations approved by the Plenary of the seminar, including some follow-up actions which should soon be addressed. Annex I presents some useful information; Annex II includes opening and closing speeches; while the list of participants can be found in Annex III.

As the reader will appreciate, this publication contains not only a synthesis of all national reports, giving a clear picture of what is going on in each country of the region in terms of curriculum adaptation and change, but also reproduces the papers presented by the international experts from within and outside the IBE. The publication, therefore, should not be considered as geographically limited in scope, since it presents many observations about the trends taking place at the global level in the field of curriculum reform and its management.

The IBE is grateful to all participants who accepted to take part in the seminar and to those whose contributions have made it possible to prepare this publication in time for the forty-sixth session of the International Conference on Education.

Note

1. The outcomes of these meetings have already been published and several IBE publications were presented at this seminar:

- Aglo, J., ed. *Réforme des systèmes éducatifs et réformes curriculaires, 23–28 Octobre 2000, Libreville*. Genève, Suisse, BIE.
- André, Y.; Mouzoune, A., eds. *Rapport final du colloque sur le thème: apprendre à vivre ensemble grâce à l'enseignement de l'histoire et de la géographie, 12 juin 1998*. Genève, Suisse, BIE.
- Braslavsky, C. *Secondary educatión curriculum in Latin America: new tendencies and changes—final report of the seminar organized by the IBE, 2–3 September 1999, Buenos Aries, Argentina*. Geneva, Switzerland, IBE.
- *Final report of the pilot intensive sub-regional course on curriculum development. The Mediterranean Region, 11–18 September 1998*. Geneva, Switzerland, IBE.
- Hallak, J.; Poisson, M., eds. *Globalization and living together: the challenge for educational content in Asia: final report of sub-regional course on curriculum development, 9–17 March 1999, New Delhi, India*. Geneva, Switzerland, IBE.
- Poisson, M., ed.. *Science education for contemporary society: problems, issues and dilemmas—final report of the international workshop on the reform in the teaching of science education, Beijing, 27–31 March 2000*. Geneva, Switzerland, IBE.

Introduction: The dynamics of educational change for the twenty-first century– the emergence of the networking paradigm

Cecilia Braslavsky

The twin paradigms consisting of management and educational policy are the dualities on which today's schools and national education systems have developed. The first of these was the 'community' paradigm and the second was the 'state-control' paradigm. Both were widespread throughout the West, sometimes coming into open conflict and at other times interacting with varying degrees of success.

The 'community' paradigm was predominant in the Anglo-Saxon world. In England and the Netherlands, for example, parish churches instituted schools that were in communion with the local population. As soon as they became commonplace, local authorities in the more prosperous cities of northern Europe, northern Italy, and even in sixteenth-century France launched lay establishments that competed with church schools. This paradigm was even more applicable to the way education began and prospered in the United States. In the present day jargon, it might be referred to as a 'bottom-up' model.

The 'state-control' paradigm, on the other hand, began to dominate from the eighteenth century onwards in the large nations—initially they were feudal in character and subsequently used the state to further the interests of modern industrial capitalism, as in the absolutist states of Spain and France and the French republics from the eighteenth to the twentieth centuries. Again, in terms of professional jargon, this might be seen as being a 'top-down' model.

The 'community' paradigm was governed by a decision-making approach close to what is considered nowadays as 'micro-policy'. The schools themselves took a considerable number of decisions regarding what and how to teach. For instance, they decided study plans and programmes with very little interference either from the state or from highly placed public authorities. Even the local authorities interfered very little with the decisions of individual schools. In the light of the considerable influence wielded by the schools, the interactions between its actors were—and are still—extremely relevant. It might almost be said that they exercised a certain sway over the higher echelons of society.

Practically all the elites who founded the Latin American education systems tried to create foundational models that combined all that was perceived as comprising the positive aspects of the two models. They aimed for strong dynamism by central governments, while allowing for local bodies that could bond individual schools with their surrounding communities. However, the effect of relations between central governments, that were relatively stronger and more dynamic than societies and markets, was to establish the clear predominance of a pyramid structure of decision-making and day-to-day administration in the education system. In that structure, the state gave orders; the schools complied (or did not) and the principals and teachers executed.

In the progressive and culturally speaking relatively more homogeneous countries, this model came to be associated with noteworthy achievements in terms of the speed and spread of education. They also facilitated the transition through a deserving phase of social construction and national integration. But it appeared to exhaust its potential in the 1960s, when some of the tendencies that would eventually lead to the civilizing revolution at the turn of the century were already firming up and when for a variety of reasons it attracted criticism from all sides. The neo-liberals thought it was too inefficient, and the libertarians found it too authoritarian. For lack of a more suitable alternative, it was mooted that the primary requisite was a form of self-management that permitted the key players to participate in administering the system, and thereby secure a more sizeable space for school autonomy. Both of these proposals in one way or another drew their inspiration from the 'community' model, which was the only recognized alternative. Both had a limited impact, however, or were quite simply rejected.

The time has perhaps come to elude the trap of debating the merits of 'top-down' or 'bottom-up' models. The technical means of building a networking model, utilizing the opportunities presented by modern technologies, are feasible today. Its advantage would involve creating a healthier interaction between the different levels of management and to redefine them as co-operators (instead of some giving orders to others at the receiving end) in a processes where all existing institutions can experience a shared sense of a common, co-coordinated and productive mission. The question then arises regarding the nature and quality of skills that are required to create the new model, as to whether the present players possess these in adequate measure, and if not, how to generate these and empower them to cope with the demands of the new millennium.

PART I:

CURRICULUM DEVELOPMENT IN THE TWENTY-FIRST CENTURY— NEW CHALLENGES

The challenges facing education in the twenty-first century: contributions of the IBE

Cecilia Braslavsky

The objective of this statement is twofold: it is aimed at presenting to you a lucid picture of the UNESCO International Bureau of Education (IBE) in its contemporary phase of evolution, as well as sharing with you our vision and thinking on the forthcoming UNESCO International Conference on Education, that is being organized by the IBE. Ministers of Education from all over the world will be participating in the forty-sixth International Conference to be held in Geneva in September 2001. As the sheer magnitude of the numbers suggest, the conference has its traditional moorings and is rooted in history. It will focus on the challenges on the horizon of a new millennium that threaten to nullify our undertaking to provide education for all. We will also explore ways and means to optimize our contributions in an effort to lend quality to the experience of living together.

We believe that the wealth of ideas and experiences in the custody of professional teams specializing in specific topics and areas of expertise, such as those on offer in this seminar, provide the basis for our preparations for ministerial conferences. The International Bureau of Education is privileged to function at once in three different areas: organizing a platform for discussing and monitoring what goes into education; facilitating political dialogue; and establishing networks to champion curriculum change. The quantum of the progress made is directly dependent on the extent of synergy generated by the seamless convergence of these three streams of our activities.

This being the case, allow me to posit three fundamental factors that warrant our attention:

- firstly, the trends that characterize our world at the beginning of this century need to be identified;
- thereafter, the challenges arising from a specific trend need to be dealt with specifically so that each one of them receives our unreserved attention;
- finally, we need to make holistic efforts to eliminate the collective threats posed by these trends.

Against this backdrop, the International Bureau of Education proposes to help find responses so that you, over the coming days, can decide in the light of your own experiences, interests and intended contributions, how best we can organize our energies and direct our efforts.

I. THE IDENTIFICATION OF SEVEN MAIN TRENDS

There are at least seven main trends that pose fresh challenges to education. The first—I shall just go through them, in no particular order—is that different educational profiles are needed for a working environment that is in a state of permanent and dizzying flux. The amount of work that remains to be done to empower people to meet their basic physical requirements for survival is mounting by the day. Worldwide, though not necessarily in every country, there are likely to be ever-fewer chances of landing a rewarding job. It is worth bearing in mind that the jobs that do exist are becoming increasingly varied. It is most likely that by the time the children now in school reach adulthood, in 2020–2030 or thereabouts, they will have sizeable opportunities.

The second trend is the shift from a pyramid- to an inverted-pyramid-shaped society, with the associated risks of disintegration. Many of us in our generation are used to talking in terms of the social pyramid or the job pyramid. The underlying assumption is that there are people at the bottom, people in the middle and people at the top. Within the next ten to fifteen years, we are likely to find ourselves with not one pyramid but two circles. One will comprise the people doing complex, creative jobs, who will find themselves at a certain point in time occupying a certain space in the circle, and at a different point in time a different space: somewhere work-related, say today, somewhere study-related tomorrow. The other circle, needless to say the bigger one, will be all the people left out, some of them living off public welfare, some off charity, some off crime. In this scenario, the two circles will only drift further apart, with the mobile elites in the smaller circle spiraling away and upward.

Of course, there is no law in nature that decrees that this is the shape of things to come. Such turns of events can be averted. If we wish to live together in peace and harmony, such twists must perforce be averted, in every society. And one way, or need I say the only way, of constructing alternatives to this prospect of a society comprising mutually exclusive circles is to provide an education that will bring one and all into that first circle so that the larger circle loses its *raison d'être*. Policies

and practices honed to provide such an education must enlighten educational structures, curricula and assessment.

The third determining characteristic of the first decade of the twenty-first century is growing inequality, and the manner in which inequality can become deprivation. In the pyramid-shaped society, the people at the bottom were still within the pyramid, still part of society. In a two-track society, the way the fruits of the overall output of goods and services are shared may be so attractive to some, and so infuriating to others, that the risks of violence will multiply explosively. Violence may be unleashed by those in the favoured circle, to ensure their dominance and continuous enjoyment of the benefits of growth and development. Violence by those outside, to seize such crumbs as may be had, is but to be expected.

The fourth major trend is for diversity to become accepted as an asset, something that must be kept distinct from deprivation and inequality. Modern society both accepts and demands that indigenous languages should be fostered, and that the differences between communities, religions and individuals should be accorded their due recognition. That being so, we need to find new ways of fostering diversity, with tolerance as the starting point, along with a quest for harmony, for alternately, everyone will be fighting to be diverse in his or her own precise way to the detriment of everyone else's distinctive features.

The fifth trend is the drive to find fresh, more intense, more creative ways of global integration that respects tradition and does not suppress or supplant it with dubious arrangements arrived at in compromising circumstances.

The sixth is an awareness that the contours of knowledge are changing rapidly—that it is far more variable than we are habituated to imagining, and the changes are both quantitative as well as qualitative. Education systems all over the world used to be accustomed to the thought that geography was geography as a given; we built up our knowledge of geography at the university and we taught 'geography' at secondary schools as a subject we imagined would be valid for twenty-five or thirty years. Nowadays we know that things are not what they seemed to be. Knowledge assumes different guises. But schools still cling on to knowledge in its fossilized forms, and what we are teaching today may not hold still or true in two or twenty years. Efforts are belatedly being made to identify basic skills and abilities that extend beyond the numbing rapidity of these changes in learning and ways of imparting wisdom, knowledge and information, that are, if not eternal, at least contemporary.

The seventh trend is the power that today's population enjoys in broadening its horizon if it so chooses. New-fangled issues are awaiting resolution. The ethics of using genetic engineering to manipulate the gender of an unborn child is a case in point. If people can—as a matter of technical nicety—they may even begin to choose what kind of a child they will have, with all its hazardous implications. The generation that will inherit the future and the Earth, and everything that goes along with these will need to be equipped with a more finely honed value system and a keener sense of judgment.

II. THE CHALLENGES AHEAD

Everybody here is aware that the various developments I have mentioned demand careful consideration with regard to teaching content and methods in the twenty-first century. What needs to be taught, and how? Can we still maintain, with Emile Durkheim, the father of the entire school of modern educational psychology, that the purpose of education systems is to transmit to younger generations the cultural heritage of the adult population? Is it not probable that education systems will end up totally obsolete and abandoned as institutions of the past, given the increasingly rapid developments in the evolution of knowledge and a younger generation with its own culture, means of self-expression and music that it wishes to see respected?

The answer is clear: education systems and schools will be left far behind unless they adapt. They can, on the other hand, play a central role if they adapt and rise to the challenges of the twenty-first century. If they manage to adapt, to become more dynamic and flexible while retaining their ability to impart vital human values so that humanity is able to live together—values that will foster life, the quest for truth and solidarity—then perhaps their future role will prove to become more elemental to society than is the case today. All the more so as our society is riddled with dynamic pulls and pressures, anxiety and uncertainty. It is to be borne in mind that another recurring problem is that people want continuity in which to practice living together so that these values can be applied and be built upon.

In a number of formerly prosperous cities that have been caught up in the sweeping economic changes of the present day, the only institution left to foster exchange, dialogue, joint effort and the construction of self-help networks is the school. Factories are closing down, community institutions no longer work or have become ineffective; the schools, amidst all this, are just about managing to remain. Many people work out of homes, others drift from one job to another; the strongest single factor that gives children and teenagers stability and a sense of belonging is the fact that they carry on going to school. But people are also beginning to realize that they do not want the inflexible schools of the past, where subjects were taught from A to Z and information was to be imparted so that children could repeat it even if they did not understand it. They want schools to remain in existence but they want them to be responsive to the changing realities—because they are all aware of the changes I referred to before. To change, and to do so very quickly, is imperative.

How do things stand in your respective countries? That is what, among other things, we are here to explore.

III. THE CONTRIBUTION OF THE IBE

Let me now turn to my third and final point: the role that a modest little institution like the International Bureau of Education in Geneva should be playing in all this, striving to create value-addition, changing what needs to be changed while retaining what is still desirable in teaching content, working methods and organizational arrangements. I am carefully not using the word 'classroom' because no one knows whether the institution to be rebuilt out of what exists today will include classrooms, as we know them.

We want the new institutions to have content. There is the danger of believing that, since conceptual and informational content change so quickly, we could have an educational institution bereft of significant content to teach children. When active teaching methods were at their most popular—the 1970s in the West, for instance—active teaching was sometimes confused with content-less teaching, as though personalities could be shaped without concentrating hard on content. Content, it is to be emphasized, is more than just facts to memorize: it is procedures to follow, values to apply, information to update and refresh. To know whether you can gather, analyse and communicate information you have to work with information, while recognizing that it will lose its value and need to be updated; what you retain is not so much the information itself, which is still there, albeit diminished in value, as the ability to work with it.

A curriculum, as you all know, is primarily a means of marking territory, of defining the rules of the game. It is the law, not in a judicial but in a sociological sense. It sets out what has to be done and how to go about it—not rigidly, with no regard for the individual, but as a set of reference points allowing the individual to belong to one or several different communities at once—so that people can sense that they are at one and the same time citizens of their nations, of the world at large, as well as of their local communities, and have their own identities to retain and nourish.

Facilitation and training facilities are becoming evermore important. The IBE is working to strengthen capacity for lasting change in education by supporting training activities backed by an international educational quality-promotion network based chiefly on curricula. The mission of the IBE is to become a content and methodology centre for education in the art of living together, encouraging political dialogue and discussion on the new educational challenges posed by worldwide trends at the opening of the twenty-first century, gathering and analysing information on curricula, other rules and regulations and key innovations, fostering capacity-building and supporting meetings such as today's. The Bureau knows very little about certain parts of the world, and both needs and wants to know more about them. It hopes it will pick up some ideas and experiences here, learning what there is to be learnt and doing what it can to encourage you to continue exchanges amongst yourselves.

We have invited colleagues from other countries to join our network of experts: from Australia, given its long academic tradition in this area; from India, given its sizeable and varied recent moves towards innovation; and from Malta, given its efforts on a scale similar to those of many of the countries represented here. It is our earnest hope that this will become a keen process of joint learning. The IBE wishes to thank the Omani National Commission and Ministry of Education for the considerable trouble they have taken in arranging this seminar.

The challenges facing education and curriculum development at the beginning of the twenty-first century

Shapour Rassekh

1. INTRODUCTION

Confronting us today are three types of challenges to education and curriculum development that need to be closely scrutinized:

1. global challenges which are external to the world of education;
2. internal challenges of the education systems themselves;
3. challenges specific to the Gulf Region.

With regard to the global challenges, we may refer to the eight critical processes to which the curriculum planners should respond. These are:

1. the process of globalization and the corresponding interdependence of all nations;[1]
2. accelerated pace of scientific and technological progress particularly in the area of communication and information as well as in the field of biology;
3. radical transformation in the field of work and employment;
4. increasing social inequalities;
5. progress of democracy and human rights and the aspiration of civil society to take part in the arena of political decision-making;
6. multi-culturalism and greater contacts among various cultures;
7. prevalence of rapid changes and the consequent uncertainties in the social life. The feeling of insecurity that sometimes provoke depression and other times violence;
8. moral decline and the felt need to revitalize moral and ethical values.

It seems to me that in a number of countries, if not in all, the education systems experience great difficulties in coping with these complex challenges. Even if reforms are planned, they are not always implemented or managed properly. And the reforms in structures, curricula, programmes, contents and methods, which are being executed, very often meet with a great deal of resistance—from parents, teachers' unions and sometimes even from pupils or learners themselves.

It is not my intention to declare that education everywhere is in deep crisis, but I do believe that it is faced with a number of barriers and hurdles as it struggles to find the right way out of the present state of flux. Curriculum reform is no doubt inexorable, but it would not suffice if it is not being monitored from the very beginning, evaluated with regularity, continuously updated and improved. In addition to these global challenges, countries in the Gulf Region seem to face some specific challenges, which may be summarized as follows:

1. the challenge of universal literacy;[2]
2. the challenge of a shortage of highly skilled human resources, including in the field of education;
3. the challenge of reconciling traditional orientation of education with the aspiration for modernity;
4. the challenge of privatization of schools in some countries;
5. the challenge of diversification of the economy to become less dependant on oil revenue and the consequent increase in the need for competence training and management development in other sectors of the economy;
6. the need to invest more in research in various priority areas, including education;
7. the need to derive optimal benefit from the complementary nature of the Gulf Region economies through enhanced co-operation.

It appears that countries in the Gulf Region are very much committed to the objective of education for all, endorsed by Jomtien Conference. However, we continue to find that many children still leave school without completing their education. We are aware that some of these countries such as Kuwait and the United Arab Emirates have applied in the past a generous system of social welfare (free schooling, free healthcare, etc.). They had to unfortunately withdraw these schemes due to the fluctuation in the prices of oil and consequent economic instability.

This may turn out to be an additional obstacle to fulfilling the ideal of implementing education for all. Although the international community has recommended life-long education for some decades now, the Gulf Region countries do not seem to have made any noteworthy progress in this area. While the continuing evolution of science and technology and the changing requirements of the labour market necessitate quality education, attention should also be paid to the democratic exigencies and the compulsions to provide equal opportunities for all.

II. SOME RESPONSES ADOPTED BY EDUCATION SYSTEMS

We had earlier referred to eight types of global challenges. We could perhaps now make a short presentation of the responses that educational planners and curricula designers have adopted in facing up to these challenges.

1. Response to globalization

Some of the responses to this process at the level of school curriculum are:

1. greater emphasis on the learning of an international language;
2. better knowledge of geography and history of the world and of world civilizations;
3. better appreciation of the role of major international institutions (such as the United Nations) and other major players in the international scene;
4. knowledge of computerization and access to the Internet;
5. acquiring the art of living with others in peace and respecting cultural diversities;
6. better acquaintance with the major problems confronting the world that necessitate the co-operation of all concerned to attain sustainable solutions.

As *Learning: the treasure within* (Delors et al., 1996, p. 51) affirms:

We must be guided by the Utopian aim of steering the world towards greater mutual understanding, and greater sense of responsibility and greater solidarity, through acceptance of our spiritual and cultural differences. Education, by providing access to knowledge for all, has precisely this universal task of helping people to understand the world and to understand others.

To this list, Hallak and Poisson add 'promoting consensus on a common core of values'. Globalization is not limited to capital movement and trade. It also includes the cultural dimension. And the Universal Declaration of Human Rights could become the axis for that common core of values, provided it is supplemented by the endowment of human responsibilities (Poisson, 2001, p. 17).

Some years back, UNESCO was insistent on the necessity of discussing major world problems at higher levels of education. The concept of 'globalization' covers not only these universal problems but also some significant advances that humanity is accomplishing in this exceptional era.

2. Response to scientific and technological progress

The accelerated pace of scientific and technological advancements necessitates regular revision and updating of science curriculum as well as the organization of refresher courses for science teachers.

In the Beijing international workshop (Poisson, 2001), Albert Pilot summarized the general trends in science education in one of the developed regions of the world (Europe) as follows:

1. from teaching towards learning;
2. from individual learning towards co-operative learning;
3. from subject knowledge towards intellectual competencies;
4. from separate subjects towards integration of subjects;
5. integration of information and communication technology in all areas;
6. and finally,the professional development of teachers.

The first point refers to a drastic change in modern education where the student, and not the teacher, becomes the centre of attention. More emphasis is laid on experimental work of the learners, their library, CD-ROM or Internet research, or any other type of student activities. The second concerns teamwork among learners instead of the individual paper or laboratory work. With regard to the third, the author believes that: 'the development of competencies to learn independently using books, articles and papers (instead of learning from teacher presentation) and the development of skills to solve problems in a systematic method, to work in team and communicate are seen as more important than before'. While dealing with the third trend, we should remember one of the key aspects of science education today — the adoption of a multidisciplinary approach. Today we talk more about a cluster of interrelated subjects rather than a long list of individual subjects.

'New curricula have more learning activities aimed at integration of knowledge and skills of competence-based learning, problem-based learning or project-oriented courses' (Poisson, 2001, p. 109). We have already referred to the fifth issue and as for that concerning the sixth, the tendency to undermine the professional aspect of the teaching job is to be avoided and the necessity of professional development of teachers needs to be emphasized. The intensive sub-regional course on curriculum development (International Bureau of Education, 2000, p. 30–31) refers to ten types of competencies that have to be developed in the teachers. Pedagogical skills are very important but have to be supplemented by several other competencies, one of which is the adaptation to the requirements of new curricula.

3. Response to transformation within the world of work and employment

A number of changes are occurring in the world of work, some of which are referred to in Braslavsky's report on Latin America (Braslavsky, 2000, p. 6–7):

1. A reduction in the employment opportunities caused, among other things, by great technological progress and robotization of some painful and dangerous tasks.
2. The availability of jobs in a greater number in the service sector (tertiary) because of the expansion of information technology, the development of scientific research and also the expansion of social security, health, education and leisure activities, etc.

3. Growth of informal, compared with formal, employment, because among other factors we need to bear in mind the employment opportunities for the coloured population and new Third World migrants, as well as the development of a 'self-service economy'.
4. Rapid changes taking place in job profiles, particularly with regard to specific skills (such as communication and problem-solving skills).
5. The changing scale on which the work lives of individuals are conducted in practice, because of the internationalization of the labour market and greater facility of movement.

The following should also be added to the above-mentioned developments:

6. The importance of team-work in business companies.
7. The tendency in many advanced societies to privatize public services because of the dominant liberal ideology (that of faith in regulation by market forces).
8. The tendency for workers and employed persons to change jobs frequently (therefore the necessity of more flexibility in response to increasing mobility).
9. The search for highest return on capital investment leads not only to the merging of various enterprises (companies, societies, banks, etc.), but also to the 'possibility of locating the units of production of goods and services almost anywhere in the world' (IBE, 2000, p. 10). The quest for maximizing profits results in the disbanding of some departments in a company and the assignment of the same work to external enterprises.

These changes invite curriculum planners to consider drastic revisions in the school programmes. The new jobs created both in the secondary and tertiary sectors require in most cases not only a higher level of knowledge and a better training compared to the past, but also some new skills such as the capacity to adjust to new circumstances, problem-solving skills, creativity and so on (Rassekh & Vaideanu, 1987, p. 50–57; Bertrand, 1994, p. 157–93). We have already indicated the importance of exposure to practical experience, during the time of study or thereafter (pre-employment training). In addition to the integration of productive work or learning by doing in the school programme, the planners advocate 'more frequent alternation of study periods and work in an education process henceforth considered as spanning a whole lifetime' (Rassekh & Vaideanu, 1987, p. 56).

Some other trends in curriculum adaptation in response to the changes in the world of work and employment are:

1. The importance of developing the right attitudes and behaviours in the students because in the autonomous environment prevalent in employment situations, a sense of responsibility and communication skills in relation to colleagues and customers are pre-requisites (Bertrand, 1994, p. 166);
2. A tendency to increase the number of students in vocational courses, and their continuation beyond the secondary level, particularly in order to train an increasing number of technical specialists.
3. A search for flexibility and a greater capacity for response on the part of the training system. This may be sought by reducing the degree of specialization and broadening the scope of training to make it more transferable and less specifically oriented towards a particular job. It may also concern the courses taken by students (breaking down barriers between courses) and be reflected in a trend towards decentralization.
4. A 'marriage' between school and business institutions, by increasing the participation of employers' representatives in deciding on options, the development of partnerships, and the contribution of firms to the training itself.
5. A considerable increase in continuing training, which relieves the basic education system of the burden of supplying 'finished products ready for employment' (ibid., p. 174).

To these, we have to add the arrangement made by many countries, very often with the help of employers, to provide fresh training to unemployed youth in order to enable them to meet the needs of some sectors of the economy.

4. Response to increasing social inequalities

One of the features of the present time is the widening gap between and within countries in terms of wealth, income and access to various social services, etc. The annual human development reports of the United Nations Development Programme present a daunting picture of these growing disparities. One aspect of the problem is the uneven distribution of knowledge between developed and developing nations as Jacques Delors et al. (1996, p. 72–74) indicate. The other is the monopoly of quality education possessed by the children of rich families. Various solutions have been considered and applied to reduce this gap within countries.

George S. Papadopoulos (Papadopoulos, 1998, p. 39–43) and others suggest the following solutions:

- taking some moderate measures of 'positive discrimination' in favour of gifted children of poor families;
- continuing the fight against gender inequalities, particularly in the prestigious disciplines of science, technology and in research;
- fighting against school failure and school drop-out of poor children, among other things through the introduction of some remedial teaching;
- opening some outlet toward vocational and professional education for less academically inclined pupils and at the same time raising the status of that type of education (for example, the Germanic dual systems);
- recognizing the convergence between general and vocational education and translating it into curriculum and instructional designs.

As our subject is curriculum development rather than other educational activities, we draw attention to this last solution. In this respect, we should indicate that many authors are in favour of some sort of vocationalization of school curriculum, at least through the inclusion of practical activities useful to both school and community. We endorse also the suggestion of Mishra in the sub-regional IBE course held in New Delhi (9–17 March 1999) that 'all vocational education programmes and activities should stress the concept of sustainable development with a focus on fostering awareness of key environmental concerns and the rights of all to a decent standard of living' (International Bureau of Education, 2000, p. 34). One of the characteristics of economic development in the Third World during the last few years has been that the growth has not reduced poverty in many countries. The new jobs created (very often in relation to the world economy) have disproportionately favoured those with higher level of education—levels that are not always accessible to the youth coming from poorer families (Reimers, 1999, p. 482–83). The solution to this unequal access to 'high-productivity employment' has to be sought at the level of educational institutions.

In a particular issue of the UNESCO review *Prospects* (December, 1999) about education, poverty and inequality, many lessons can be learned from various countries in respect to ways of dealing with the persistent problem of inequality in school: affirmative action, remedial action and preventive measures are only some examples of what is being done in the United States. In respect to prevention, it seems to us that in schools or communities where a high proportion of people are poor, the curriculum should put a particular emphasis on the value of effort and qualities such as courage in order to inspire the learners to overcome resigning themselves to what is considered as fate. The concept of 'education for liberation' applies in this case.

We do not enter into the discussion of some preventive measures working outside the system of curriculum such as free tuition, free food and transportation, the struggle against child labour, refuge centres for street children, appropriate pre-school education for the poor, 'second chance' schools to attract high school drop-outs, etc. However, as sometimes the poor children belong to cultural minorities using languages different from the national language, production of literacy materials in those languages is particularly recommended.

We have to admit that if the issue of equity and equality was the main concern during the 1950s and the 1960s, today's primary preoccupation is with quality, relevance and competitiveness at least for many governments around the world (Reimers, 1999). Nevertheless, certainly the problem of equality of access and success cannot be entirely bypassed because of the potential resources that exist within the poor children, not to mention serving the cause of justice and equal opportunities for all.

5. Response to the progress of democracy and human rights

No doubt that the democratization of political systems has been a highly significant feature of the last decade. This process, which will no doubt continue through this century, has also been reflected at the level of schools, changing gradually the relation between the pupils and the teaching staff, and placing greater emphasis on the necessity of producing active and responsible citizens.

Education in tolerance and respect for other people is a prerequisite for democracy according to Jacques Delors and his colleagues (1996, p. 60). It should be regarded as a general and ongoing enterprise. Democratic dialogue and peaceful resolution of conflicts should be taught early in the school life.

As multi-culturalism becomes the rule in most societies, 'the single notion of tolerance must therefore be transcended in favour of an education for pluralism based on respect for and appreciation of other cultures' (ibid., p. 60).

Some trends in the education sectors, in response to the democratization process, are:

1. Utilizing schools to make the learners familiar with their rights and duties and with what is expected from them in their different social roles as consumers, as voters, as partners in the family, as members of various associations, etc.
2. In addition to civic instruction, including familiarity with civil and political institutions, laws, etc., providing students with practical experiences in a democratic atmosphere (e.g. setting up pupil parliaments, role playing to stimulate the functioning of democratic institutions, school newspapers, exercises in non-violent conflict resolution, service to local community, etc.) (ibid., p. 62).
3. Involving family, local community and associations in the education for citizenship and democracy.
4. Considering civic instruction not restricted to the transmission of a set of well-established rules, but as an occasion to develop the sense of judgment in the learners, who sooner or later have to participate in real public life.
5. Paying particular attention to the type of education suited to different minority groups in order to enable them to 'take control of their own future' and bring their enriching contribution to society.
6. Preparing students for life in the new information society by mastering technology and at the same time 'displaying a critical spirit in sorting and ordering information'.
7. Using history, geography and social science courses to promote the concept of living together and co-operating (André & Mouzoune, 1999).
8. Putting particular emphasis on human rights education while benefiting from the enormous experience accumulated in this field by UNESCO and some other United Nations Agencies.' The concepts of

human dignity, human rights and freedom should not be restricted to specific subjects and particular courses but form an integral aspect of most school disciplines (philosophy and humanities, history, geography, civic instructions, history of sciences, etc.).[4]

6. *Responses to the need for cultural dialogue and interaction*

One aspect of the present process of globalization is precisely what can be considered as the beginning of cultural globalization. Politically and economically dominant societies of the West are considerably influencing the mode of thinking and behaviour of the people of the South and the East. At the same time, we are observing zealous reactions to this process, people defending their traditional values and ways of conduct. 'Peoples everywhere want to find their roots beyond the vicissitudes of recent history and recreate a solid link with their past' (UNESCO, 1985). In fact, the world is enriched not by the homogenization of various cultures but the appreciation of their original diversity, and the possibility offered to them to interact constructively and learn from each other.

The school curriculum can play an important role in promoting creative cultural dialogue and interaction, not only through history and the history of civilizations, devoid of chauvinistic and ethnocentric contents, but also by injecting the intercultural approach in other disciplines (e.g. in teaching mathematics, one can say that the Western world has a debt to the Indian and Islamic civilizations). Extra-curricular activities should also provide ample occasions for such positive intercultural education (Delors et al., 1996). As Delors and his colleagues have stated 'Knowledge of other cultures leads to an awareness of the uniqueness of one's own culture but also an awareness of a heritage common to all humanity' (ibid., p. 50).

Curriculum designers should pay special attention to the following:

- including in the school programme guided visits to the interesting cultural sites of their own countries and elsewhere in the context of different study areas (such as history, geography and languages);
- making young people aware of the need to protect the world's cultural and natural heritage;[5]
- excluding from textbooks the strong nationalistic approach which creates a false sense of superiority and leads to the rejection of other people's achievements and merit;
- fostering the sense of shared values and a common destiny, as basis for international co-operation and solidarity;
- giving the linguistic minority groups the possibility of starting the acquisitions of literacy (reading and writing) through their own language or dialect and then move to the learning of national and international languages for further studies;
- providing through aesthetic and artistic education the occasion for students to become familiarized with the outstanding works of art in different cultures.

7. *Responses to the need for revitalization of moral values*

The need to revitalize moral values is felt in many aspects of life. Ethics have once again become a point of reference in politics, business, biological and medical fields, journalism, etc. Curriculum designers have therefore to give appropriate place to value education in school programmes (Rassekh & Vaideanu, 1987, p. 155–62; Delors et al., 1996, p. 276–310). Other partners of education (parents, local community, church, media, etc.) should also support this trend or at least avoid contradicting it.

The teaching of the Universal Declaration of Human Rights has its place in many schools such as those associated with UNESCO. This has to be supplemented by the presentation of human responsibilities not only toward other human beings and neighbours, but also toward nature, the past and future generations and even toward history (where are we and where do we want to go?).

One of the negative features of the present world is the prevalence of violence in society, in the family, in school and elsewhere. The need is great to include in the school curriculum lessons on peaceful resolution of conflicts. Aggressiveness and violence are not basic natural characteristics of human beings as several scholars in various fields (psychology, biology, anthropology) have demonstrated (UNESCO, 1980); therefore they can be controlled and even eradicated. Children have to be taught dialogue, consultation and co-operation early in their lives. School should continue their teaching and practical training in this direction.

Referring to the globalization movement and certain other significant evolution of the present world, Küng comes to the conclusion that we need a set of global ethical values that respond to the current challenges (Küng, 1995).

Most of these values (such as respect for human dignity, respect for life and altruism moderation, etc.) have formed the basic tenets of the great universal religions. The time has come to revitalize them and reflect them in the teaching/learning programmes as well as in our daily practices.

Many writers have referred to humanistic values, such as respect for others, concern for a better understanding of other cultures in their diversity, desire and will to understand things objectively. UNESCO has promoted in the last few years what has been called the 'culture of peace'. After the Rio de Janeiro conference on environment and development (1992), reference is often made to the importance of an ethics of environment.

These 'new values' have to be added to the traditional ones in order to reinforce the model education of

the present generation. Some trends in the field of value education according to a UNESCO regional workshop in Tokyo (NIER, 1994) are as follows:

1. There is a great need to promote and emphasize in the curriculum the culture of peace, tolerance and democratic attitudes, openness to international understanding and co-operation and a new attitude towards the environment.
2. With the requirements of the changing situations in the world, some of the values have to be modified or adapted (e.g. the concept of world citizenship has entered into educationist consideration, thanks to the International Labour Organisation initiative at the Copenhagen Social Summit of 1995).
3. Curriculum designers should try to link the new values to the traditional norms existing in the country to make the new ones better understood and accepted; if there exists contradictions between them (for example, between traditional nationalistic attitude and the new sense of world citizenship), the justification of the new values should be elaborated.
4. Teachers have to be convinced that the world of the twenty-first century needs new values such as gender equality.[6] Teacher training or retraining programmes should include such issues.
5. Evaluation of pupils and students should not be limited to their cognitive performance in school but also take into account their attitudes and behaviour toward other persons and toward the establishment; respect and love for other people, spirit of service, and readiness to co-operate are among the qualities that need to be particularly evaluated.
6. As Roberto Carneiro said (1996, p. 201–04): 'love is not enough'. As he has indicated 'education for justice' should be considered as the core of moral education: And this means 'the acquisition of a sense of abstract justice (equity, equality of opportunity, responsible freedom, respect for others, protection of the weak, and awareness of differences) [but at the same time] that attitude predisposing people towards taking practical steps to promote social justice and defend democratic values'.

8. *Educating for the time of uncertainty*

As Hughes has rightly indicated 'in the period leading to a new century and a new millennium, the global society is in a period of reappraisal and self-doubt, with few clear and convincing visions of future' (Hughes, 1998, p. 47). He adds that 'without such visions, social aims [including those of education] tend to be limited or confused, lacking a coherent and comprehensive set of purposes'. No doubt, we live in such times of uncertainty. Technological and social changes are so rapid that the educational efforts have great difficulty to shape and direct them.

One can find uncertainty plaguing all aspects of life. Young people are anxious about the employment options ahead of them on completion of their studies. There is a feeling of uncertainty about the quality of food, the condition of the environment (as an example, we may refer to water pollution or atmospheric warming, security in large cities, the fluctuation in the stock market, the use of nuclear weapons in the case of any international conflict, etc. What can education do in anticipation of such situations?

To our knowledge, little attention has been paid by education specialists to these crucial questions.[7] We have some studies about education in times of tension and crisis. Violence in school became a subject of study and publication in the last few years (violence is not always caused by anxiety or feelings of uncertainty as shown by Ohsako[8]). But how are we expected to cope with these uncertainties in school and particularly through curriculum changes and reforms?

We find references in a number of books to the necessity of equipping pupils with the capacity to adapt to change, with the ability to create, with the power of risk-taking and other entrepreneurial qualities. In an older document (Gullberg-Hansen, 1991, p. 199), the reference is made to the development of skills such as precision in carrying out one's work, a methodological approach to work, meticulousness, the ability to adapt to new kinds of work and the ability to co-operate. The translation of these goals into learning materials and methods will not be easy.

Many believe that future studies should form an integral part of the curriculum at least at the higher level of education. The study of the future and the analysis of the major problems confronting the world can go hand-in-hand (Rassekh & Vaideanu, 1987). The objective should be to give confidence to the young learners that humankind can favourably influence their future, if the right decisions are taken and acted upon today.

One aspect of the changes ahead of us relates to the world of employment and work. As Hughes has rightly said on the basis of a 1993 study (Hughes, 1998, p. 57), expectations of students contrast adversely with those of teachers. While the latter give priority to personal and social development of the learners, students are particularly interested in vocational and academic development. This means that young people are looking much more to their own professional future to the exclusion of other vital issues. Therefore secondary and tertiary level students should become familiar not only through reading materials (in addition to the textbooks) but through other means as well (vocational guidance, debates on television, information on the Internet) about the changing needs and requirements of the labour market.[9] Textbooks may refer to a forthcoming new knowledge-based economy and its likely impact on various aspects of human life. Concepts such as post-industrial society or post-economic society may form part of the discussion.

Some other suggestions concerning the preparation of youth for the time of uncertainty are:

- extending and reinforcing compulsory general education to further consolidate its foundation for subsequent specialized lines of study (Hughes & Skilbeck, 1994, p. 27);
- specific preparation of the pupils (by information, guidance, and a crescendo of self-reliance) for increasingly varied and autonomous learning and training at post-compulsory levels of education (King, 1979, p. 238). The capacity to learn and keep learning is more crucial than specific skills learnt in school;
- greater emphasis on development of qualities necessary to adapt better to the changing conditions that characterize our world today (these qualities have been already referred to); practical experiences should be introduced to strengthen qualities such as problem-solving, the ability to search for innovative solutions, consultation and co-operation, courage to face the unexpected. Closer bonds between community life and school are required to make the pupils agents of change and development in their own social environment;
- to reduce uncertainty, at least as far as the world of work is concerned, the dialogue between business and industry sectors and the educational sector is crucial if a better understanding of each other's positions is to be achieved. This will be crucial from yet another point of view: 'Increasingly, much vocational education will occur on working sites' (OECD, 1994, p. 34).

III. INTERNAL CHALLENGES FACING THE EDUCATION SYSTEM

It is important to remember that challenges to the education system do not emerge only from the outside world but at times arise from within the system itself. With developments in psychology and educational sciences, more and more schools have become learner-centred, using active and participative methods. They encourage students to explore, investigate and learn by themselves, promote new technologies like computers, stimulate openness and interaction with the surrounding world (local community, enterprises, media, natural environment, etc.), facilitate co-operation and co-operative learning, create occasions of experimenting democratic life within school. This process transforms the role of teacher from that of a reservoir of knowledge to one of an animator, guide, moderator, etc., who helps to develop in students skills and qualities which are indispensable to live a happy, balanced and successful life.

Curriculum designers can no longer be left alone to their own devices. They have to be assisted by all the stakeholders in the education system (parents, church, economic enterprises, experienced teachers and supervisors, representatives of educational authorities, etc.) through joint committees in order to reach a consensus on the type of programme contents that effectively cope with the diverse challenges. The curriculum development or change will then become a technical subject for the specialists to deal with.

Several concepts have attracted the attention of the educational planners during last decades, such as:

1. orientation toward a variety of goals (learning to know, learning to be, learning to do and learning to live together);
2. universalization of education (basic education for all);
3. considerations to ensure equal opportunities for all (of access and success);
4. quality as a priority concern;
5. efficiency of education (particular care for the economy of education);
6. relevance of education (particularly to the needs of labour market);
7. the continuity of education (lifelong education).

We may say that these seven concepts, even if they have always preoccupied the decision-makers, have received varying emphasis in different times and places. Curriculum designers in various continents and countries pay greater or lesser attention to every one of them. To give an example, in the case of Latin America today we refer to Braslavsky (2000) who considers that the following trends exist at the level of secondary education:

1. combining richness or quality of learning and flexibility in the curriculum (flexibility in the sense of admitting variations according to the characteristics of the individual establishment in which the curriculum is being implemented);
2. going from a fragmented curriculum to a more unified one; replacing the concept of subjects by the concept of curriculum space or area;
3. exposing pupils to practical learning experiences (projects, workshops and activities);
4. when subjects are maintened, offering the possibility of opting between subjects within the same field of knowledge;
5. making timetable prescriptions more flexible;
6. moving from limited and pre-distributed time to extended and free time (this free time being left to the decision of schools for appropriate utilization); and
7. directing efforts toward changing radically the learning methods (more active and participatory approaches, development of research and active projects in the local community).

Talking about the challenges to education emanating from within, one cannot avoid discussing the enrichment of the curriculum, because of the necessity of including therein a number of new contents (Rassekh & Vaideanu, 1987) such as environment, population, democracy, human rights, inter-cultural relations, disarmament, peace, etc. There are number of reasons which justify the inclusion of these new subjects, the most important being the necessity of preparing the new generation to face the requirements of a new epoch.

In order to avoid excessive burdening of the programme, a number of measures have been adopted. Some of them are: the infusional approach (integrating new contents in those courses which are already taught such as history, geography, biology, civic education and the like), interdisciplinary approach (as applicable to the study of environment), out-of-school or extra-curricular activities which cannot only be the entry point for new contents but also help to break down compartmentalization of subjects; use of some educational aids such as the Internet, websites designed for educational purposes, and yet others.

Notes

1. Which means also globalization of problems such as environment pollution, poverty and exclusion, drug trafficking and consumption, etc.
2. According to UNESCO (*Statistical yearbook 1999*), the rate of illiteracy is as follows: UAE 20.8%; Kuwait 21.4%; Oman 28.1%; Qatar 22.9%; Saudi Arabia 29.2%; and Bahrain 17.7%.
3. See the documents of the International Congress on education for Human Rights and Democracy, Montreal, 8–11, March 1993 (UNESCO and the United Nations Centre for Human Rights). See also the pertinent chapter in Rassekh, 1996.
4. The 1993 Montreal World Plan of Action for Human Rights and Democracy includes also education for human rights in a non-formal setting (media, workplace, professional associations, cultural organizations, etc.).
5. Which are seriously threatened by pollution, population pressure, wars, poverty and sometimes by illicit trafficking of cultural property.
6. On this important issue, refer to one of the twelve recommendations (strategic objectives and actions) of the Fourth World Conference on Women (Beijing, September 1995) including women training and education, and human rights for women.
7. We may still refer to some old books about education and change such as *Education for uncertainty* by Edmund King (1979).
8. See T. Ohsako, *Violence at school*, IBE, 1997; S. Tawil, *La destruction et la reconstruction de l'éducation dans les sociétés perturbées*, IBE, 1998.
9. See among the other documents Suzanne Berger, *Globalization and the future of work in debates on issues of our common future*, edited by Wilhelm Krull, Germany, 2000, p. 75–85.

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PART II:

THE MANAGEMENT OF CURRICULUM ADAPTATION FOR CURRICULUM SPECIALISTS FROM THE GULF COUNTRIES— A ROUND-TABLE ON CURRICULUM CHANGE

Planning curriculum reforms: some reflections

Shapour Rassekh

The transmission and acquisition of reliable knowledge has been the primary goal of curriculum development for several decades. In 1970s however, educationists such as P.H. Hirst (1974) believed that the curriculum should be built around several logically distinct forms of knowledge such as various fields of science, art, philosophy, etc. 'From the early 1970s onward, philosophers of curriculum turned increasingly toward an exploration of defensible general aims and attendant ethical values', observed J. White in the *International encyclopedia of education* (1994, p. 1326). Ideas such as the contribution of curriculum to personal autonomy, personal well-being, to general happiness, or to civic and economic ends soon entered the discourse.

In the 1990s, ethics rather than epistemology seem to have received greater emphasis in the curriculum. The International Commission on Education for the Twenty-first Century (UNESCO) believed that acquiring the necessary qualities as human beings, as citizens (learning to be), and learning to live with other people in peace, harmony and friendly co-operation should constitute a vital aspect of education.

The dominant model of curriculum planning which serves as a reference point is the Tyler rationale (Tyler, 1969) that has been summarized by G. Posner as follows:

> when planning a curriculum, four questions need to be answered. *First*, planners need to decide what educational purposes the school should seek to attain. Specialists should derive these 'objectives' from systematic studies of the learners, from studies of contemporary life in society, and from analyses of the subject matter. These three sources of objectives are then 'screened' through the school philosophy and through the knowledge available about the psychology of learning. *Second*, planners need to determine what educational experiences can be provided that are likely to attain these purposes. Possible experiences are checked for consistency with objectives and for economy. *Third*, the planner must find ways that these educational experiences can be effectively organized. *Fourth*, the planner needs to determine whether the educational purposes are being attained. Objective evaluation instruments (e.g., tests, work samples, questionnaires, and records) are developed to check the effectiveness of the curriculum (*International encyclopedia of education*, 1994, p. 1329).

We have to remember that curriculum planning is never a purely technical matter as Tyler or Taba (ibid., p. 1328–34) assume. In most cases, even in the democratic countries, there is an intervention of political authorities in that process. The extent of reform in the curriculum is often decided by the political leaders because of the differences in political perspectives amongst different political groupings. The harmonious growth of personality or learning in the sense of the acquisition of knowledge and know how, are no longer the only purposes of the education system. Greater emphasis is being laid on the development of specific attitudes such as devotion to national goals or developing desirable characteristics in the learners. Governments are particularly interested in such approaches. Even in the context of developing qualified human resources to meet the growing needs of the economy, the issue of quality, attitude and behaviour of the individuals to be trained are never overlooked.

The technical production perspective in curriculum planning, represented by Tyler, Taba and others is the predominant mode of thought prevalent in the United States. As opposed to this, we have the critical perspective of thinkers such as P. Freire for whom 'curriculum planning is not viewed as a technical matter, but instead as a political and ideological one ... the end product is not a learning outcome, but critical reflection and action upon reality'.[1]

We believe that there are aspects of truth in both technical and critical perspectives and one does not necessarily contradict the other. There are many cases where the political decision-makers define goals of the education system and its curriculum, but the precise educational objectives and means to reach them efficiently are left to curriculum specialists. More deliberations involving all the partners of the education process are being organized. Objectives and means are not being viewed as two separate entities but as J.J. Schwab suggested (Schwab, 1970) they are being seen as part of a 'flexible, varied and interactive planning process'.

Returning to the concept of *objective setting* as the first step of curriculum planning, Maitreya Balsara in a recent publication (Balsara, 1999) proposes the following criteria for choosing the right objectives:

- the educational objectives must be conceived in terms of the demands of the social circumstances (for example the conditions prevalent in a society where science and technology have the highest position, or a society faced with the challenge of globalization process, etc.);
- education should lead toward the fulfilment of basic needs (such as access to a job, acquisition of communication skill, etc.);
- be consistent with democratic ideals (such as producing responsible citizenship);
- be either consistent or non-contradictory in their relationships with one another;
- be capable of reduction to behaviouristic terms (for example what critical thinking means in terms of behaviour at different levels of study).

According to the same author, the process of curriculum change involves four stages:

1. recognition of need;
2. planning and formulation of a solution;
3. initiation and implementation of the plan;
4. institutionalization of the change.

In the opinion of the author, a plan is formulated to satisfy the need identified at the first stage.[2] The participation of all stakeholders such as experts, students, administrators, the public, even the media in the formulation of educational policy and plan is recommended.

Having decided upon the changes to the curriculum, its implementation needs additional efforts such as communication and publicity, leadership from administrators, generating broad-based support, awards, resources and finally appropriate forms of innovative management and organization (ibid., p. 33).

The paper by Macelli in the present publication proposes a systematic model in the form of a practical operational manual of a certain approach to the initial responsibilities of a curriculum planning team. In Balsara's terms these would be: recognition of need; planning and formulation of a solution.

How are the multiple objectives, some socio-economic and others related to the development of the individual, expected to be derived and managed in the context of their interrelationships? How are the multiple stakeholders to be consulted beneficially and their interests judged in terms of their relationship to one another? The complexities of such requirements make a systematic approach to curriculum revision inevitable. Outside the field of education, there are tools that managers and planners use to cope with such complexities. Macelli in his paper develops an approach that customizes one such set of tools from the field of project management and adapts it to meet the challenges facing curricular reforms.

The emphasis of his paper is on the first step, that is, the diagnosis of needs and formulation of objectives. In respect of both these curriculum development responsibilities, his approach involves dealing with the education system in its entirety. As a result, the derived objectives inevitably represent two inter-linked planning agendas: one for the change of the curriculum itself and one for the reform of the education delivery systems involved. The challenge then is seen to be 'curriculum review and related education system reform'.

In an attempt to take the reader and potential user through the proposed method, the paper presents the adapted tools in systematic format that provides examples so that the outcome of each step can be visualized. This is done for example in connection with building a 'problem-tree', or a tree comprising hierarchical unfulfilled educational and social needs. An 'objectives-tree' for the revised curriculum and for the education delivery systems is then derived from this.

Notes

1. H. Taba, *Curriculum development, theory and practice*, New York, Harcourt & Brace World, 1962. Taba proposes seven steps (a linear model) in curriculum planning:
   - diagnosis of the needs;
   - formulation of objectives;
   - selection of content;
   - organization of content;
   - selection of learning experiences;
   - organization of learning experiences;
   - determination of what to evaluate and of ways and means of evaluating.

   Tyler and Taba belong both to the school called 'technical production perspective'. For them, schooling is a process whose main purpose is to promote or produce learning. Objectives are conceived in terms of desirable learning and the planner should develop scientifically the means necessary to produce the desired learning outcomes.
2. We refer readers to other chapters of the book including principles of subject matter selection, use of instructional time, curricula aids, etc.

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Planning for curriculum review and related education system reform

Tony Macelli

CONTENTS

I. Introduction.
II. A customized approach.
III. Phase One – Analysis and curriculum document formulation Phase* of CR-ESR
Step S1 – Stakeholder analysis for CR and ESR;
Step S2 – Problem analysis for CR and ESR;
Step S3 – Linked objectives analyses for CR and for ESR;
Step S4 – The new curriculum document.
IV. Phase Two
Appendices
I: Steps of a standard OOPP approach.
II: Three variants of the LogFrame chart.
III: Example of a list of stakeholders.
IV: Examining the structure of a revised curriculum document.
V: Case description, step by step.

I. INTRODUCTION

Educational content, educational methods and aims, and educational delivery systems—as the parents and midwife in the birth of new generations—all face contemporary challenges, such as the changing world economy, globalization, regional integration, the Internet and so on. They also often face the challenges that consist of their own failings in the past.

To reformers at country level, education district level or autonomous school level, there are two phases or major aspects to the process of achieving educational and societal change through curriculum revision. The first is the process of bringing about change in the curriculum; and the second is the process of bringing about the institutional and operational changes that are required for the proper implementation of the new curriculum. Quite different activities may characterize the two phases. Also, there might be delays and political difficulties in the interim period between the curriculum revision phase and the education reform phase.

There is a case to be made, however, for some kind of integration of these two phases at the planning stage, and also with related major activities, such as public communication strategies or political-context changes. This may render benefits, such as more built-in foresight, better consultations and a wider sense of ownership of the whole process. If these benefits do occur, they bring a greater chance of success. Here, therefore, we shall consider the two processes as two phases in a single overall process of curriculum revision and educational reform.

What makes these processes challenging to manage is the diversity of attitudinal, political, educational, institutional and cultural changes necessarily involved, and the number of diverse interests of various stakeholders: parents, teachers, teacher trainers, educational experts, school administrations, district and regional education systems, and national and other politicians. There are, however, proven methods and approaches for managing such complex multi-faceted processes of change. One of them in widespread international use is the 'objectives-oriented project planning' (OOPP) or 'logical framework method'.

The logical framework method[1] was developed for the United States Agency for International Development and later transformed by the German International Development Agency (GTZ)[2] into a participatory and client-centred holistic tool for a process of planned change.

Such methods, if applied to the field of curriculum revision and related education system reform, may be expected, based on the experiences of their use in various other contexts, to have a number of strongly desirable features, including:

- rationalizing and focusing the whole enterprise;
- formally processing conflicting and other stakeholders' interests;
- providing a framework for seamless creative collaboration and synergy of various teams;
- properly and usefully recording outcomes of planning work for later re-use;
- making provision at early stages for monitoring and evaluation;
- reducing arbitrariness and using logically interrelated elements in a plan;
- providing persuasive justifications for all major innovative elements;

- providing an institutional memory that enhances similar future waves of reform.

The purpose of this paper is to enable change agents—such as educational administrators charged by the political sector with the task of reform—to visualize the application of the OOPP method to the process of curriculum revision and related education system reform in schools. It is assumed here that many or all of the school subjects at compulsory education levels are involved, and that new outlooks, methods and approaches are being introduced,

TABLE 1. OOPP for curriculum review and education system reform.

Step	Description	Curric Revision	Education System Reform	Document produced as a result
	(I) ANALYSIS AND CURRICULUM FORMULATION PHASE of curriculum review and education systems reform .			
S1	Conduct stakeholder analysis (CR, ESR)	Yes	Yes	A stakeholder analysis chart or report in relation to curriculum change and education system change
S2	Conduct problem analysis (CR, ESR)	Yes	Yes	A problem-tree spanning problems in learning and problems in delivery systems.
S3	Conduct analysis of student learning objectives (CR); alongside institutional change objectives (ESR)	Yes	Yes	An objectives tree spanning problems in learning and objectives and institutional reform objectives.
S4	Draft, publicize and revise a new curriculum document with stakeholder participation (CR)	Yes	No	A curriculum document, revised or new and authoritative (e.g. a new minimum curriculum), a revised set of curriculum standards, new guidelines, etc.
	(II) PLANNING PHASE of education systems reform			
S5	Define intervention logic for ESR	No	Yes	A LogFrame planning chart for curriculum implementation and education system reform. It is a 4x4 or 5x4 matrix. The *narrative first column* is filled.
S6	Specify assumptions and risks for ESR	No	Yes	The *assumptions and risks columns* of the LogFrame chart is filled, and the first column revised if necessary.
S7	Identify indicators, and means of checking them for ESR	No	Yes	The *indicators and measures columns* of the LogFrame chart are filled, and the first column revised if necessary. Monitoring and evaluation plan
S8	Prepare activity schedule for ESR	No	Yes	The *activities and outputs rows* of the LogFrame chart A list of activities with responsibilities assigned to (individual, corporate or collective) agents. A set of targets/milestones/deliverables/ outcomes/outputs. Training programme items are derived from other targets and activities, and added to them. PERT flowchart plan if required.
S9	Prepare cost schedule for ESR	No	Yes	Cost analysis of the activities. The *inputs row* of the LogFrame (if 5x4 cell format used). Calendar charts of inputs and activities.

but the tools used in the present paper should be useful for single-subject curriculum revision and for non-schools post-secondary educational contexts.

The intention here is not to present a watertight model that can be used independently of national and regional conditions, independently of different starting points and different political systems, or independently of the broad directions of desired change. It would be simplistic to imagine that this could be done. The intention is rather to stimulate educational change agents to develop the tools and processes that are required for their own region and country. The process described here is idealized and rationalized. It is acknowledged that, in real scenarios, planning and the implementation of plans are often non-linear, non-sequential, iterative, unexpectedly complex and even chaotic. Nevertheless, the map has to be smaller and simpler than the terrain, and in that, hopefully, lies its usefulness.

Unless stated in a footnote to be fictitious, all the illustrations in the present paper of material generated at various points of the idealized process are taken or faithfully adapted from real processes of curricular reform that have actually occurred. However, it has been difficult to find cases where the OOPP framework has been used in the context of curriculum-development and related educational reform. Thus, these illustrations have had to be taken from other approaches and grafted onto the OOPP approach to help us visualize the use of this method for our context.

The literature put out by various authors and consulting firms is not always identical as regards the steps of the OOPP method. Even the LogFrame, or 'logical framework' chart — a fundamental part of the part of the approach — is not always exactly the same. Sometimes OOPP and Logical Framework Method (LFM), are used interchangeably. This should hopefully not cause too much confusion, and we shall here present a representative list of steps of OOPP and later an acceptable version of the LogFrame chart. The sequential parts of the OOPP approach are presented in Appendix I of the present paper.

II. A CUSTOMIZED APPROACH

The 'project' in our case[3] would take root as a result of locally felt need in a specified area, such as a country or a sub-national region or school district, depending on the nature and location of the felt need and the amount of educational and political autonomy available in the region concerned. The project would be given a specific title such as 'Curriculum Revision and Related Education System Reform', possibly with a more specific subtitle specifying the type of reform the geographical scope, and other detail. This prevents confusion of different broad expectations in the early parts of the process; but the focus will become progressively sharper and more clear as the first steps proceed. We assume also that policy mandate, authorization or clearance has been given by an appropriate source, e.g. an electoral programme, a ministry policy paper, a departmental business plan, or other document.

Who undertakes or co-ordinates the planning activities in steps such as those shown above? In a relatively contained scenario, there may be a single planning team to do all the work. But if the context of the project is geographically wide or educationally complex, there may be a progression of actors, each taking charge of a group of steps, ideally with a single body overseeing general progress. Thus the work of curriculum revision or design may be assigned to a suitable design team including a core of educational experts, while the planning of subsequent curriculum-implementation, for example at the national level, may be assigned to a quite different team of persons. More detailed planning at the level of school districts or more local level could be the responsibility of yet another set of teams, one for each local area. At various stages, the several categories of stakeholders themselves would have to be involved, in the interests of gaining ownership and increasing the chances of success. These various scenarios notwithstanding, we shall refer to 'the project team' for convenience.

What scenario can be assumed for the purposes of the present paper? We assume a scenario in which holistic 'curriculum revision' (CR) *as well as* significant 'education system reform' (ESR) are required, the latter being necessary to support, enable and complement the changed curriculum. The use of the term 'curriculum revision' here, rather than 'curriculum development', is deliberate. It is meant to suggest that in the assumed scenario there is a strongly felt need for fairly radical changes in the content and methods of the curriculum. It suggests that that normal incremental methods of revising the official curriculum for schools are either non-existent or too slow to cope with the pace of change within the country or within the global context. Similarly, it is assumed that fairly radical reform is required in the education delivery systems. This refers, for example, to the modernization of procedures and information flows, the upgrading of skills, the introduction of new styles of teaching, the recognition of diverse styles of learning, the utilization of new classroom technologies, and so on.

For such a scenario, the present paper proposes a modified OOPP-type method of planning, which is summarized in Table 1.

This method, which we may refer to as the CR-ESR or 'curriculum review—education systems reform' model, intertwines these two processes of change to account for their interrelationship. The first 'steps' are devoted to them both, and then a 'step' is devoted mainly to curriculum review, followed by several steps devoted to the planning of education systems reform. There are two successive phases, called firstly the 'Analysis and Curriculum Formulation Phase', and then the 'Planning Phase for Education Systems Reform'.[4]

The Analysis Phase, represented by the first three steps in Figure 1, must focus on both the CR and the

ESR challenges. The results of these three steps need to be crystallized by the project team with the aid of stakeholders into a consistent and publishable new 'curriculum document' in the fourth step. The starting point would be the detection of two types of problems: learning problems *versus* institutional problems. Institutional problems here refer to deficiencies in education service delivery and difficulties related to education felt by other societal institutions, for example employers not finding the right job skills in school-leavers. The learning problems and institutional problems are conceptually distinct, but have to be recognized in their strong interrelationship and formulated correspondingly.

Thus, for example, in step S1 a certain *problem* in children's learning may be found to exist, to a significant extent, because of a certain education service delivery problem (or problems). For example, low levels of numeracy or literacy (a curriculum achievement problem) may be maintained by a defect in teacher training or class organization that does not take into account different learning styles of different students (this being an institutional problem). This interrelationship is the justification for our proposal to have a joint problem analysis for the CR and the ESR areas. In the spirit of the OOPP approach, the analysis in Step S1 makes use of various sources for identifying the problems and their linkages, and results in a hierarchical problem tree.

Then, when in step S2 *objectives* are derived to solve these problems, these objectives similarly have to be conceived together, even though they may be objectives in distinct domains. These objectives, in the same example, may be: (a) a learning objective, which is to be used in curriculum design; and (b) an institutional objective, which is to be used in the reform of education systems. The need for identifying simultaneously the CR-related and ESR-related problems (with their relatedness), and similarly also the corresponding objectives, is the reason for the double scope (CR and ESR) assigned in the proposed approach to the first two steps. The subsequent fourth step, S4, where the 'curriculum document' is generated, revised and published, does not really correspond to any one of the standard OOPP steps.

The remaining steps after this are standard OOPP-type steps for designing and planning a complex project. Here they are used to design the intervention required in the education service delivery system. They aim to discover what activities and achievements are necessary so that all the institutional change objectives and all the learning objectives are sustainably met.

We shall now present each step (as described in Table 1) of this CR-ESR approach to planning, indicating what work is required by the various actors at the planning and giving examples of the results that may be obtained. Phase One—Analysis and Curriculum Document Formulation— comprises steps S1, S2 and S3 to be carried out by the planners' team, and step S4 to be carried out by the curriculum drafting team.[1]

STEP S1: STAKEHOLDER ANALYSIS FOR CR AND ESR

This step (S1) aims to obtain a list of stakeholders and their interests in relation to the envisaged process of curriculum change and in education delivery systems. In this step, the planning team aims to involve, and where possible to bring together, representatives of as many of these stakeholders as possible.

The importance of this step is that it ensures that all persons with a stake in the result will be involved, if possible, in the process leading to that result. It has been found in many politically and developmentally diverse countries that a sense of ownership in curriculum change processes is critical to the success of the reforms. Ownership is obtained by involving the persons concerned appropriately in the process, be they teachers, teachers' unions, political decision-makers in the educational and related sectors, opposition politicians, school heads, departmental director and staff, local educational experts and teacher trainers, the general public, parents, school students, employers, non-state school boards, local government councils, school councils made up of teachers and parents, and others.

There may be reasons for which no co-operation is forthcoming from one or more of these persons, groups, institutions or categories of persons. The teachers' union may be insisting on holding the crucial parts of the process to ransom unless their demands regarding conditions of work are met. Opposition politicians may not wish to collaborate publicly because of the political dynamics of the day, perhaps determined by non-educational issues. Administrative personnel may be reluctant to take on more work. Some parents may be against innovation and may be afraid of a decline in recognition of school-leaving certification by employers. It may or may not be possible to resolve such obstacles to universal support for the important societal change processes of curricular and educational system reform. However, even in the case of non-co-operation, it is important that planners are aware of the real interests of the various dissenting or co-operating groups. In the case of dissenting groups, it may be possible to incorporate some, if not all, of their concerns and interests as the planning proceeds; if they will not take part in the initial meetings, then somebody else may have to formulate their presumed interest or 'stake' on their behalf.

Thus one of the purposes of the present step is the identification of the diverse societal interests involved, in the interests of harmony—or at least of a rational strategy in the process of change. In a slightly wider sense, the purpose of this step is to have as many diverse perspectives as possible for clarifying the politics of the change. Politics is a field of resource distribution, of distributions of power, of interests and conflicts of interests. What is at stake includes such valued items as tradition, money, authority, power, prestige, public credit and acknowledgement of one's contribution—and such negatively

valued items as the loss of the above values, including shame or loss of face.

In the present context, questions to be answered during this step are therefore similar to the following ones: What are the important aspects of the situation comprising learning, teaching, service delivery and so on? Who is involved; who is going to be involved; who has a right to be involved? Who has the expectation of becoming involved? Who decides what; who implements what; and who is going to be affected? Who will benefit, who will pay, who will take the risky decisions? Who will bear the consequences of failures? Who will feel threatened? Which persons, in broad terms (such as the authors of out-of-date textbooks), will be actually worse off after the changes being contemplated?[6]

OOPP approaches suggest a number of preliminary meetings for this step, possibly using brainstorming techniques on the topic of 'problems and opportunities faced by the stakeholders', as well as other forms of research, such as analysis of past documents, interviews with key persons, questionnaires and so on. These may generate material for the next two steps, but their key purposes lie in the areas of: (a) involving stakeholders in the reform process where possible; (b) harmonizing the process to their interests where possible; and (c) mapping the landscape of diverse interests.

One method that has been suggested for the creation of material for the stakeholders analysis is to generate for each major corporate stakeholder the replies to the questions: What are the organization's strengths, weaknesses, opportunities and threats or problems faced? This so-called 'SWOT analysis' can generate information about stakeholder interests used in the present step, and also about the problems and objectives used later in steps S2 and S3. The replies to these four questions can be generated by the representatives of many corporate stakeholders at a meeting organized by the planning team. The political context, of course, may make such a meeting inadvisable, but conversely such a meeting, where everybody understands the other stakeholders' interests, aims and constraints, may actually reduce some types of conflicts.

At the end of this step, the planning team would create, not necessarily for publication, a document called a *stakeholder analysis*. Like other planning documents, this may be revised whenever better insights appear later in the planning process. It should be deposited within the records of the planning institution, and possibly elsewhere, for the sake of long-term institutional memory. However, it will be directly useful again in the present planning process, especially during those later stages where objectives are set (S3) and where assumptions and risks are being identified (S6). A realistic partial example is included as Table 2. An actual list of stakeholders appears as Appendix III.

Decisions may now be made—based on such a chart, based on previous experience and based on current political situations—about who to invite to the subsequent series of planning meetings. Even those who are not participating should have their interests considered at the time when the problems and objectives are being identified, in the next steps.

STEP S2: PROBLEM ANALYSIS FOR CR AND ESR

An overview of the undesirable aspects of the present situation should now be undertaken. The existence of these undesirable elements in the curriculum and in the education delivery system is the justification for carrying out curriculum review and education system reform. Problems may include difficulties faced by stakeholders, unfulfilled potentials and unfulfilled opportunities—all, of course, related either to the teaching and learning process or to the education delivery systems.

The persons to be actively involved at this stage should be chosen by the planners for a strategic reason: they should probably include the major stakeholders. The exercise of carrying out this step may have a beneficial effect on certain types of minor conflict. Because it enables problems to be faced dispassionately and somewhat scientifically—that is, with at least an intuitive analysis of cause and effect—the participants tend to retreat from adversarial positions and perspectives, if possible. The planning team may therefore use this step, and the next one, not only for the sake of its theoretical results but also for the results in terms of interpersonal and inter-group relationships, and some measure of conflict resolution. If the correct informal and good-humoured atmosphere can be achieved, this step and the next one are highly enjoyable and highly thought-provoking sessions. In order to obtain a perceptive and comprehensive result, the informality and freedom from fear of criticism are important factors, and so this should be explained and built into the expectations of the meeting or meetings.

In both modern and traditional, religious or secular cultures, serious consideration should be given to surveying and soliciting public opinion, and the opinions of various types of bodies. There is no enterprise that is as far-reaching and multi-faceted as the education of a generation of new citizens. There is no enterprise that affects an entire population as much as the education of its children and future families. The legitimacy of educational reforms derives not only from what educational experts think, but equally from what the citizens are noticing, feeling, wanting and saying. In steps S2, S3 and S4 therefore, questionnaires, meetings and appeals in the media for public contributions should be included among the means of getting information and opinions. In the present step S2, these public opinions can complement, enrich and reality-check the experts' and planners' answers to questions such as: What are the problems in the present curriculum and syllabuses? What are the problems in the manner that educational services are delivered?

OOPP-type methods require at this stage that the problems are identified and placed hierarchically in

FIGURE 2. Stakeholder analysis chart for a CR-ESR process—a partial example

Stakeholders in CR-ESR	What is their interest or 'stake'? + = potential benefit – = potential negative effect	Requirements for their continued support for the project	Appropriate participation mechanism
Teachers	+ More professional job responsibilities + High quality in service training – More work for profiling and formative assesment of stucents	Consultation on own problems; consultation before curriculum change in their subject	Questionnaires; school-level and district level teacher' diagnostic and problem-solving meetings; contributions recorded and given to planners Postal contributions invited on drafts of new curriculum and on experts' implementation plans
Primary school students (from middle-class neighbourhoods and families; girls and boys)	+ Wholesome, creative personality development, building on preferred learning style; joy, wonder, curiosity; fulfilling relationships; academic tools; whole future life; entitlement for education		Sample pre- and post-reform interviews of pupils by expert educational psychologist to determine environmental and pedagogic strengths and weaknesses of school, curriculum, teaching styles etc.
Teachers' unions (etc.)	+/- Opportunity for winning better conditions of work by temporarily blocking a reform desired by government + More professionalization of their members	Early negotiations with government; special strategy needed by government in case of non-cooperation	Negotiations behind closed doors with agreed confidentiality and provisions for arbitration

the form of a branching tree of items, known as a 'problem-tree'. The 'technology' for doing this in a group requires small cards on which participants can write one problem per card. The cards are then stuck on a large sheet or sheets of paper, such as wrapping paper, wallpaper or flip-chart paper, that has been fixed onto a wall with a detachable glue for the participants to examine. Markers or pens should be available to mark the background paper, if necessary with hierarchy lines and loops around large clusters of items. The chart thus formed may take up the best part of a wall of a room or hall. Participants should be free to walk around the chart as it is being created, and several persons can share the tasks of collecting and placing the cards in a hierarchical order.

What determines the hierarchy? More focal, more basic problems are to appear high up on the chart, but even further above them may be some of the anticipated problems, or 'effect' problems. If there is an existing problem *X* on a card on the chart, and another problem *Y* is being examined, then if *Y* contributes to *X*, it is called a 'cause' and is placed below *X*. If *Y* is created or affected by *X*, then it is called an 'effect' and is placed above *X*. If *Y* is neither a cause nor an effect, then it is placed to the side, neither directly above nor below *X*. Some pairs of problems are mutually influencing, and this can be indicated by arrows

drawn on the paper. Arrows may also link problems that are not near each other. 'Regions' or clusters of problems of the chart may emerge naturally. In such a case, each cluster would consist of inter-connected problems, but is weakly linked to other clusters. Each cluster may have a top or focal problem. The cluster may be delineated with a marker pen, and may be given a name. If necessary, a section may be given to a sub-group or an external group for more careful or more expert elaboration.

At least one company has produced software for following an objectives-oriented project planning approach, including the creation of problem-trees. However, as already stated, beneficial experience can be gained from the hands-on method using several interacting participants, cards and glue, and so if the software is available it probably should not be used as a substitute.

In our CR-ESR method, colour-coding of the cards is required to distinguish between two types of problems. One type of problem is classifiable as curriculum content (or omission). The other type consists of those that are classifiable as institutional or education system problems. There is some overlap, as in the area of teaching methods, but this is of no great concern in this step. It is in the next step, where objectives are to be derived from these problem-cards, where it is important that the twofold classification be made. This is because *curricular* objectives will be used to create a new curriculum or a new curriculum document (authoritative standards or guidelines, etc.) while the *institutional* objectives will be used to create a plan for the implementation of the curriculum and for reforming the necessary aspects of the educational delivery systems.

What does a problem-tree look like in the context of the CR-ESR model? An illustration of a small part of such a tree is given as Figure 1. Discussion about the problem-tree may later need to identify one or more core problems. Often in OOPP-type methods, only one core problem is identified per project team, as this leads to focused solutions and effective problem-solving. However, in the case of complexities of holistic curriculum and education systems review, it is doubtful whether the luxury of identifying only a single core problem is available or useful. Figure 2 clarifies the position of two core problems identified from the problem-tree in Figure 1—one institutional, the other curricular.

STEP S3 – LINKED OBJECTIVES ANALYSES FOR CR AND ESR

1. Converting problems into objectives

The aim in this step is to develop a vision that would solve the problems indicated in the problems analysis just undertaken. To be more exact, what we need to develop at this point is two visions: one for what the future completed curriculum document should look like; and secondly, a view of what the education delivery systems should look like. We need to be able to visualize our destinations and, to some extent, our paths as well.

Fortunately, the OOPP-type procedures break this daunting task into steps that often can be easily carried out by the planning team, possibly together with the main stakeholders. The type of meetings required is similar to those of the previous step. The problem tree derived in the previous step is *converted into* an 'objectives tree'. This conversion is not a mechanical process, but nevertheless consists of manageable actions that do not present a major challenge. Moreover, there is the opportunity for inspired insight when one is working on some of the problems in this manner, as will be pointed out in Table 3.

Objectives are statements about what is intended or desired. As such, they can be broad or narrow in scope. However, OOPP and other approaches insist that an objective should be specific, measurable and realistic. It is important that objectively verifiable indicators are derivable (in a future step) from each objective, and it may be possible and desirable to hint, in the words describing the objective, as to what these indicators might be. An objective should be formulated in such a way as to indicate the type of changes that are required to result. Pedagogical objectives for the curriculum will lead to results in the learners' skills and capacities, their attitudes, their values and behaviour. Institutional objectives will lead to results in a wide range of other areas. To ensure that their formulation means the same thing to various persons involved, they should be formulated clearly and unambiguously. A widespread convention required that they be formulated in the infinitive tense ('to ...') of a strong verb, avoiding wherever possible such weak verbs as 'to improve ...' or 'to understand better ...'.

2. A vision linking curricular objectives and institutional objectives

The word 'linked' in the title we have given to this step indicates that there are two generally different, but linked, types of objectives that will appear; they correspond to the two branches of the CR-ESR model—on the one hand improving the curriculum and on the other hand improving the institutions, such as schools and departments that implement it. In our CR-ESR model, colour coding or the codes CURR and INST will be used on the cards on which the objectives are written. Some cards will be marked 'CURR' (see Figure 3) to indicate that they contain *pedagogical and other curricular objectives*, that are to be fulfilled by developing the text of the new curriculum policy document containing a new curriculum or curriculum guidelines or standards. These CURR objectives will thus be fulfilled by educational experts, curriculum experts and subject experts. They may change the included subjects, the teaching approaches, the overall guidelines, and so on.

FIGURE 1. Part of a problem-tree showing related curricular and institutional problems

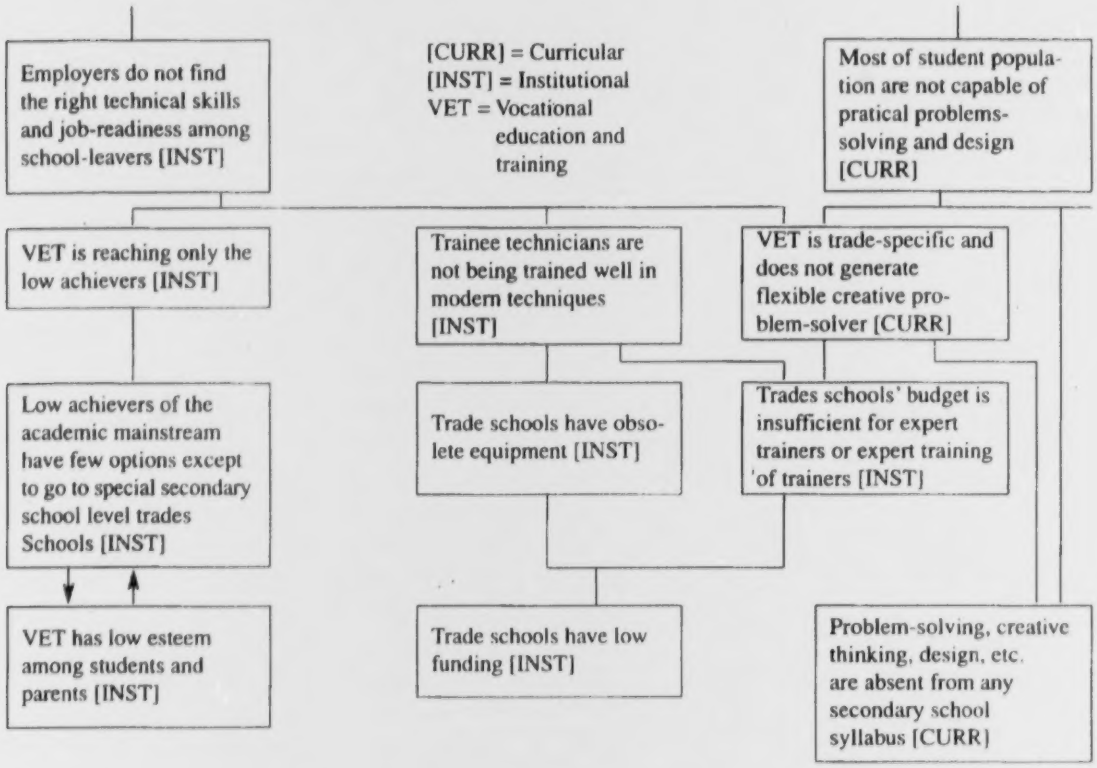
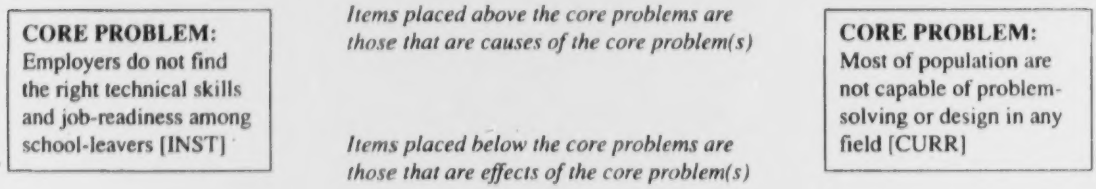

Employers do not find the right technical skills and job-readiness among school-leavers [INST]
[CURR] = Curricular
[INST] = Institutional
VET = Vocational education and training
Most of student population are not capable of pratical problems-solving and design [CURR]
VET is reaching only the low achievers [INST]
Trainee technicians are not being trained well in modern techniques [INST]
VET is trade-specific and does not generate flexible creative problem-solver [CURR]
Low achievers of the academic mainstream have few options except to go to special secondary school level trades Schools [INST]
Trade schools have obsolete equipment [INST]
Trades schools' budget is insufficient for expert trainers or expert training 'of trainers [INST]
VET has low esteem among students and parents [INST]
Trade schools have low funding [INST]
Problem-solving, creative thinking, design, etc. are absent from any secondary school syllabus [CURR]

FIGURE 2. Identification of two core problems in the problem-tree of Figure 1


CORE PROBLEM:
Employers do not find the right technical skills and job-readiness among school-leavers [INST]
Items placed above the core problems are those that are causes of the core problem(s)
Items placed below the core problems are those that are effects of the core problem(s)
CORE PROBLEM:
Most of population are not capable of problem-solving or design in any field [CURR]

By contrast, some of the objectives cards will be marked 'INST' to indicate that they contain *institutional objectives* that are to be fulfilled by the curriculum implementation activities and by the innovations and reforms required in the education service delivery systems. Unlike the CURR objectives, which will be fulfilled by the formulation of a curriculum document, the INST objectives will be fulfilled by institutional changes of various kinds. Some of the changes will be curriculum implementation strategies of a system-maintenance type, while others will involve strategies of a system-changing type, such as the creation or termination of a college, the setting up of monitoring and evaluation systems where they have been absent, and so on. Unlike the curricular objectives, these institutional changes will be carried out, not necessarily by curricular experts but possibly by administrators, managers, directors and politicians.

There are bound to be some objectives that need to be marked as belonging to both categories, i.e. CURR/INST. Such objectives are to be treated as if they occur twice, once in each category. If colour-coded cards are used to build the objectives-tree, each such objective can be written on two cards, one of each colour.

The result, initially prepared in the form of cards on a wall as in the previous step, will look similar: near the top are more fundamental or ultimate objectives, and

near the bottom are more instrumental objectives for reaching them. Thus, vertically upward is the means-to-end direction, but it can also indicate lower objectives being encompassed by higher ones.

An example of a partial objectives-tree is shown in Figure 3. This was derived from the partial example of a problem-tree in Figure 1. To create this objectives tree, the problems were reviewed and, where useful, a corresponding objective was generated, as is shown in Table 3.

3. Special objectives?

At this stage in the present model, the planning team should consider whether, besides the objectives derived directly from the problem-tree, it is also necessary to include a number of *special objectives*, as in the examples given below.

One category of special objectives that will almost certainly be required, whether or not it corresponds directly to anything in the problem-tree, is a set of *sustainability* objectives. How are the various innovations, curricular standards and so on to be sustained?

A second category of special objectives that will be required, to the extent that they are not already provided for elsewhere, is a set of objectives related to *monitoring, evaluation, curricular revision, and institutional corrective action*. The last two of these are responses to monitoring and evaluation exercises and processes. The education system, from child to minister of education, from teachers' groups to high-level committees, must generate information about its functioning, and especially about the functioning of the new or changed processes now being planned. Monitoring obtains this information. Evaluation processes examine this information and compare it to stated aims, and they inform the appropriate units, departments or persons about the result, and ensure that timely corrective action is taken.[7] The curriculum now being revised will need to be revised again eventually, perhaps after four or five years—or sooner. At that future time, the decision-makers and planners will appreciate it if, from the earliest possible time, information about monitoring and evaluation has been placed accessibly in some form of institutional memory, and that it will continue to be accessible and meaningful even when individual persons have moved, changed responsibilities or retired.

As in standard OOPP methods, certain provisions for monitoring and evaluation are built into the approach, as we shall see later. Those provisions, however, are part of the logical framework of the project design, and so they relate directly to the changes being planned within the 'project' that is currently being defined and designed. Systems that are automatically regularly monitored, evaluated and corrected are generally more 'intelligent' and robust or non-failing systems. Thus, in the interests of basing the present reforms within robust education delivery systems, the present step would be a good time to examine the delivery systems as a whole to see whether essential work is covered by successfully functioning systems of monitoring, evaluation and corrective change. If it is not, then it is likely that some special objectives to ensure the creation and use of such mechanisms may need to be added.

A third category of special objectives that may be required at this stage is related to *decentralization*. From the perspective of system vitality, the *principle of subsidiarity* should be seriously considered: no function is retained at an organizationally higher level if it can be carried out appropriately at a lower level, such as at the school or class level. For many countries, progress towards such a scenario would probably represent a considerable measure of decentralization. Decentralization generates ownership and motivation, and therefore increases effectiveness and efficiency in educational service delivery and in reform of delivery systems. There are, of course, intermediate functions of responsive support, monitoring and communications that must be carried out to sustain a healthy decentralization. A great deal of local creativity and commitment is purchased at low cost by an emphasis on centrally supported decentralization. The present step would be a good time to check out to what extent decentralization-related special objectives are necessary in the curriculum and in the institutional reform process.

The results of the creative problems-to-objectives conversion process are placed into an objectives tree, as shown in Figure 3. It should be noted that, as they are formulated and reformulated, the objectives will probably, as in our example, fall naturally into relationships with each other that are quite different from the relationships among the corresponding problems of the problem-tree. The structure of the objectives-tree is not the same as the structure of the problem-tree

4. Selecting project strategies from closely linked clusters in the objectives-tree

As regards the *curricular objectives*—those marked CURR in Figure 3—these are to be used to create a new curriculum document in the subsequent step (S4) of the present model. Here, we assume that there is a special team of experts who will be commissioned to convert these objectives into a new curriculum document. The curriculum expert team will need to know the context of these curricular objectives, so the entire problem-tree and the entire objectives-tree is reproduced and given to them along with their briefing. Their terms of reference would directly cover only the *curricular* objectives and the drafting of the document. They can be told to assume that some or all of the institutional objectives may be met by the time the curriculum document comes into effect or becomes law. The curriculum drafting team should, however, keep in touch regularly with the overall planning team, because such assumptions may have to be modified as the institutional planning and implemen-

tation work proceeds. Also, the planning team will be developing, among other things, a curriculum implementation plan and so they have to liase with the curriculum-drafting expert team. That being said, we may now assume that the curriculum drafting work can proceed to some extent in parallel with the work on the institutional objectives.

Let us now consider just the institutional objectives, those marked INST in Figure 3. The planning team can now identify clusters for the objectives-tree. A cluster is a group of objectives with many connctions to each other in the objectives-tree. Using the word 'strategy' only slightly differently from its use in ordinary language, we may permit the OOPP tradition to define a 'strategy' as one or more clusters chosen from the objectives-tree—preferably with a top-level or 'strategic' objective for each cluster.

The decision about how many of these strategies to identify and take up depends on the magnitude of the task and the resources available. How to proceed from here depends upon the complexity of the issues being addressed and the size, available time and expertise of the planning team and their groups of colleagues and, of course, on the gravity of the problems and the magnitude of the funding and human resource allocation for the planning and implementation stages. Thus, one or more strategies may be taken up as the nucleus of a project to be designed and implemented. One or more clusters may become a project. Alternatively, more than one project may be necessary from this point onwards, and different teams can be made responsible for different projects. A strategy can be given a name for identification purposes. For each project the next steps require the formulation of the intervention logic or LogFrame plan. For simplicity, we shall now assume that, as regards the institutional objectives, there is one project with one strategy.

STEP S4–THE NEW CURRICULUM DOCUMENT

1. The purpose of this step

What is a curriculum document? Here we use this phrase to refer to the various kinds of document that formally guide the manner in which education and training is to proceed. The document may be a complete set of objectives or guidelines, with some indications of the outcomes desired in the students. Or, it may be a formal list of educational outcome standards,[8] the standards being written in such a manner as to facilitate legal enforcement and to permit straightforward monitoring and evaluation of progress to be achieved. The document may be complete in itself, or it may consist of additions to, or revisions of, an existing curriculum. The purpose of the present step S4 of the CR-ESR approach is to create the curriculum document required in the given situation. The requirements for a curriculum document are embodied in two groups of objectives:

(a) *Challenge-related objectives*. Objectives for meeting contemporary challenges—these would have appeared in the objectives-tree; they occur at various levels, some being instrumental to others or contained in others, whether they are grouped into strategy(ies) or not;
(b) *Comprehensiveness objectives*. All other objectives required for completing a curriculum as comprehensively as the situation requires. These may be compiled from various sources[9]—educational experts, public surveys, previous curricula, other countries' curricula, and international documents and conventions, such as those on human rights or the rights of the child. Here again, there will be various levels of objectives, some more instrumental for achieving others, and some will be more comprehensive than other ones that may focus on some tiny detail.

At the beginning of this step, the curriculum drafting team will have information from the previous steps, especially the strategies consisting of branches from the objectives-tree. From these, a curriculum document is to be created in the current step. There are, no doubt, many alternative approaches to the successful organization of such work.

Also numerous are the possible situations or scenarios that will have made the new curriculum document necessary. Questions such as the following will determine the scope of the activities required to create this document: Do a few aspects of the existing curriculum need to be changed, or is a radical re-writing or replacement of the current curriculum required? At what hierarchical level is the document required to be used? If there are two or more hierarchical levels from centre to school, what level of decentralization/local autonomy is appropriate? Is the curriculum limited to one or a few specific school subjects (e.g. information and communications technology or ICTs) or considerations (e.g. gender equity), or rather is it supposed to cover holistically the entire educational activity of schools at one or more levels? Depending on the replies to these questions, the need and sources of additional objectives will become clear.

2. Who and how?

This step is carried out by curriculum-related educational experts, with the internal and external collaboration of stakeholders, experts and the users of important subjects being introduced or approached in a new way, such as ICTs in the classroom, or technology education. In a democratic environment, decisions about the content of a school's curriculum, such as the various levels of objectives embodied in the document, derive their legitimacy from the citizens and residents of the area, as much as from the experts. Thus, wide public consultation through postal enquiries and open public meetings is recommended. Clearly, there will not be total agreement among all stakeholders as to what is desirable at all

TABLE 3. Deriving a set of objectives from a set of problems—vocational education and training (VET)

From this problem ...	... was derived this objective(s)	Comments—how and why.
Employers do not find the right technical skills and job-readiness among school-leavers [INST].	To develop a job-market oriented workforce with modern skills and international-level qualifications [INST/CURR].	*Straightforward conversion; note that an institutional problem has required an objective that is partly curriculum related.*
	To achieve attitudes and skills of retrainability and lifelong learning among most school-leavers and in adult education [CURR].	*This additional objective was intended to tackle the indicated problem more radically and with a more holistic perspective.*
VET is reaching only the low achievers [INST].	To ensure that VET successfully reaches and motivates many persons of all abilities including high achievers [INST/CURR].	*Straightforward conversion; note that an institutional problem has required an objective that is partly curriculum related.*
VET is trade specific and does not generate flexible creative problem-solvers [CURR].	To develop practical problem-solving and design skills in most students [CURR].	*This objective is of wider scope than the problem was (i.e. it relates to all forms of schooling, not just VET). This is deliberate and was chosen in view of other problems recorded elsewhere.*
VET has low esteem among students and parents [INST].	To raise the esteem of vocational and technical education by enabling most students to familiarize themselves early with technical subjects.	*Straightforward conversion, plus a specific approach visualized ('most students ... etc.').*
Most of student population are not made capable of practical problem-solving and design [CURR].	To include practical technology education in all primary and secondary schools [CURR].	*A creative insight gave rise to this additional objective as a way of resolving the stated problem (low VET esteem) and several others related to skills*
Problem-solving, creative thinking, design, etc., are absent from any secondary school syllabus [CURR].	To include problem-solving, creative thinking, design and autonomous learning skills in all primary and secondary school curriculum [CURR].	*Straightforward conversion.*
Trainee technicians are not being trained well in modern techniques [INST].	See below.	*This problem suggests to the planners that something is seriously wrong with the whole institutional model that is being used to supply VET, perhaps an automatic carryover from a different past.*

levels. The following two considerations may be useful in this respect.

Firstly, the inclusion of a large number of actors or at least 'talkers' in the consultation process takes time and invites disagreements, but it is undertaken not so much for the cost-effectiveness of obtaining ideas in this way, but rather for different reasons. Ownership and commitment generated by such consultation has been shown time and time again to increase the success of such ventures. A person or institution that has been consulted may cease unnecessary opposition upon simply being consulted and listened to—that is, acknowledged. In many cases, especially perhaps where there is a history of insensitive or unresponsive bureaucracy or autocratic government, the real need of social actors may be to be acknowledged as participants and potential contributors, rather than to insist on their own opinions being accepted. Thoughtful persons are likely to realize that an entire set of conflicting opinions sometimes has to be consolidated in just one position. The acknowledgement comes from being consulted, from getting feedback after a postal

(Table continued)

From this problem ...	... was derived this objective(s)	Comments—how, and why
Trades schools have obsolete equipment [INST]. Trades schools' budget is insufficient for expert trainers or expert training of trainers [INST] Trades schools have low funding [INST].	See below.	*These three problems could have been translated in a straightforward manner into their converse objectives ('to upgrade equipment for trades schools' and 'to allocate more public funds to trades schools') but this was not done because it was felt that something is wrong with the current institutional delivery model and throwing money at it would not resolve the problems.*
Low achievers of the academic mainstream have few options except to go to special secondary-level trades schools [INST].	To terminate secondary-level trades schools and set up instead a higher level but wide-access path to industry-useful vocational and technical qualifications [INST].	*The planners here have a creative insight for the reform of service delivery; this is not a straightforward translation of the problem into an objective, but as soon as the insight appears, a strategy is conceived, and the institutional reform part of the project begins to seriously take shape, as also does the curriculum review part of the project.*
	To offer post-secondary VET qualifications to certified international standards [CURR] To ensure access to post-secondary technical college courses by all ages above 16 years including employed and unemployed persons [INST] To set up a post-secondary College of Arts, Science and Technology with a wide spectrum of institutes and courses, international experts and expert twinned international partner institutes [INST].	*These three objectives were developed by thinking about the college-related reform-insight (above) in their context. Their context consists of all the other problems in the problem tree.* *Note that the college is conceived as the <u>means</u> to a higher <u>end</u> already identified: 'to set up ... a higher-level but wide-access path to industry-useful vocational and technical qualifications'.*

contribution, from being permitted to write a minority report, and so on.

Nevertheless, of course, we may expect divergences that arise from a real clash of interests. The stakeholder analysis will have anticipated many such clashes, and a strategy such as clash-focused early consultations or thinking about novel solutions that transcend the polarization may have been adopted to minimize such incidents. Still, real clashes of interest or of strong opinion will remain. Some are resolvable, and some may not be, and would thus have to be subject to arbitration or an authority-based decision. Before resorting to these extreme measures, however, it may be useful to attempt the following strategy in cases of clashes of opinion and of interests: Try to achieve a broad agreement on the higher-level objectives first. Clashes at a lower level may then be resolvable by appeal to the agreed higher-level ones.

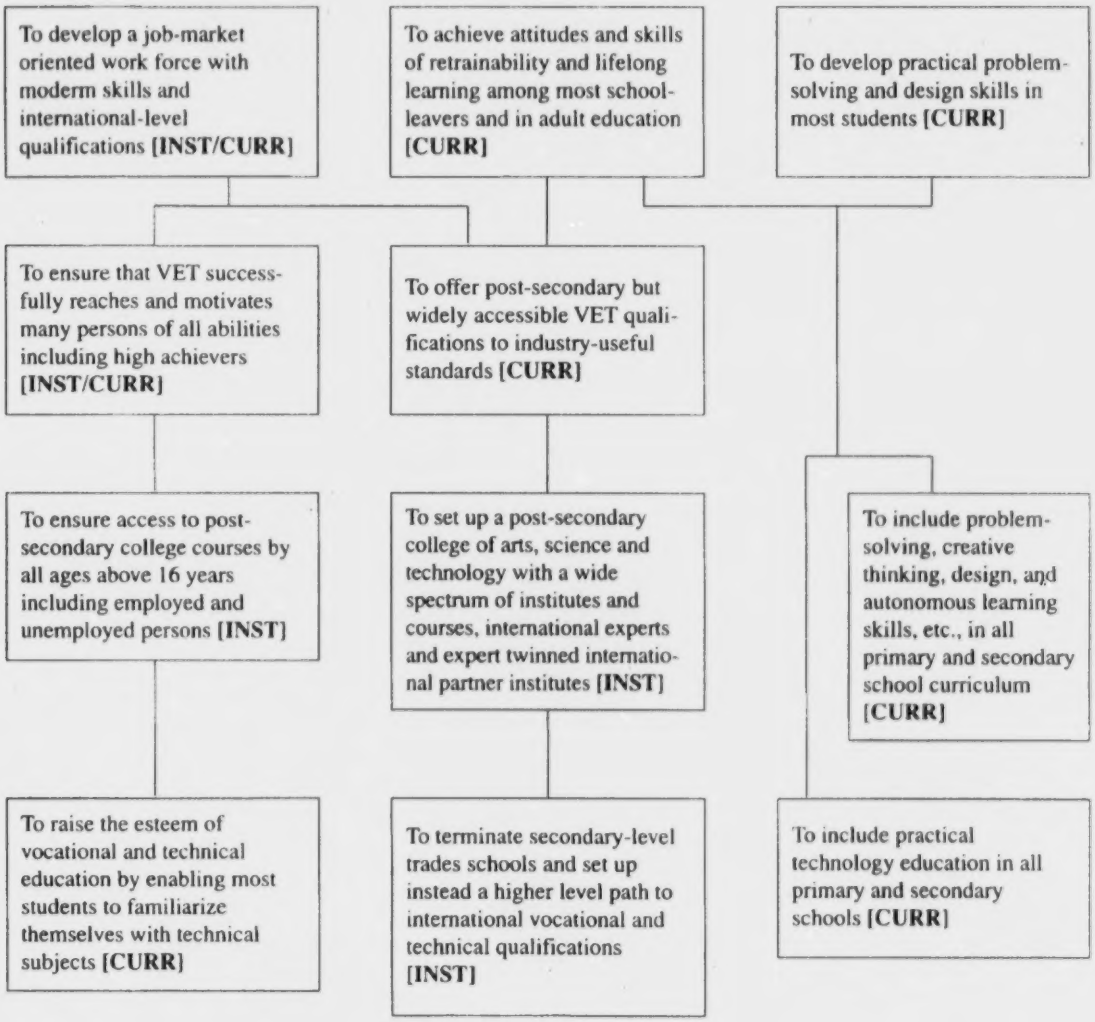
At least two cycles of wide consultations with citizens and parents and with organizations are recommended. One cycle could obtain opinions and facts that could guide or be included in the curriculum document, while the next cycle would be to circulate or publish a good draft of the document and solicit comments and corrections for the next or final draft. Procedures, possibly legal, would then follow to formally approve and to bring into effect the new curriculum document.

3. Structuring the curriculum document

Compiling a curriculum document is not a standard step in OOPP-type approaches, but we can take some inspiration from such approaches concerning how the document should be organized. A curriculum is essentially a document that elaborates and presents in a use-

FIGURE 3. Example of a partial objectives-tree derived from the problem-tree example

[CURR] = curriculum review objectives; **[INST]** = institutional reform objectives


To develop a job-market oriented work force with modern skills and international-level qualifications [INST/CURR]
To achieve attitudes and skills of retrainability and lifelong learning among most school-leavers and in adult education [CURR]
To develop practical problem-solving and design skills in most students [CURR]
To ensure that VET successfully reaches and motivates many persons of all abilities including high achievers [INST/CURR]
To offer post-secondary but widely accessible VET qualifications to industry-useful standards [CURR]
To ensure access to post-secondary college courses by all ages above 16 years including employed and unemployed persons [INST]
To set up a post-secondary college of arts, science and technology with a wide spectrum of institutes and courses, international experts and expert twinned international partner institutes [INST]
To include problem-solving, creative thinking, design, and autonomous learning skills, etc., in all primary and secondary school curriculum [CURR]
To raise the esteem of vocational and technical education by enabling most students to familiarize themselves with technical subjects [CURR]
To terminate secondary-level trades schools and set up instead a higher level path to international vocational and technical qualifications [INST]
To include practical technology education in all primary and secondary schools [CURR]

ful and inspiring manner the educational and related aims, their justifications and their various types of implications, such as teaching methods, school environments, etc. In a full and comprehensive school education curriculum that attempts to meet many contemporary socio-economic challenges, there may be two, three or even more levels of objectives, from the widest justifications down to the instrumental aims and desired teaching methods. An illustration of this seen in Appendix IV to this text entitled 'Examining the structure of a revised curriculum document', where the entirely new national minimum curriculum of a small country is shown to have principles and objectives of several levels and types.

We turn now to the two groups of objectives mentioned earlier. The challenge-related objectives, derived from the problem tree, would be important in a scenario where they have to be integrated into an already comprehensive curriculum or set of curricular standard. Both the challenge-related objectives and the comprehensiveness objectives, of course, would have to be included if the situation demands a comprehensive new curriculum document.

In the spirit (if not the letter) of the OOPP paradigm, it is proposed here that the objectives be organized into a single hierarchical list of types. The more comprehensive types would be those that themselves constitute their own justification and thus do not have to be justified by

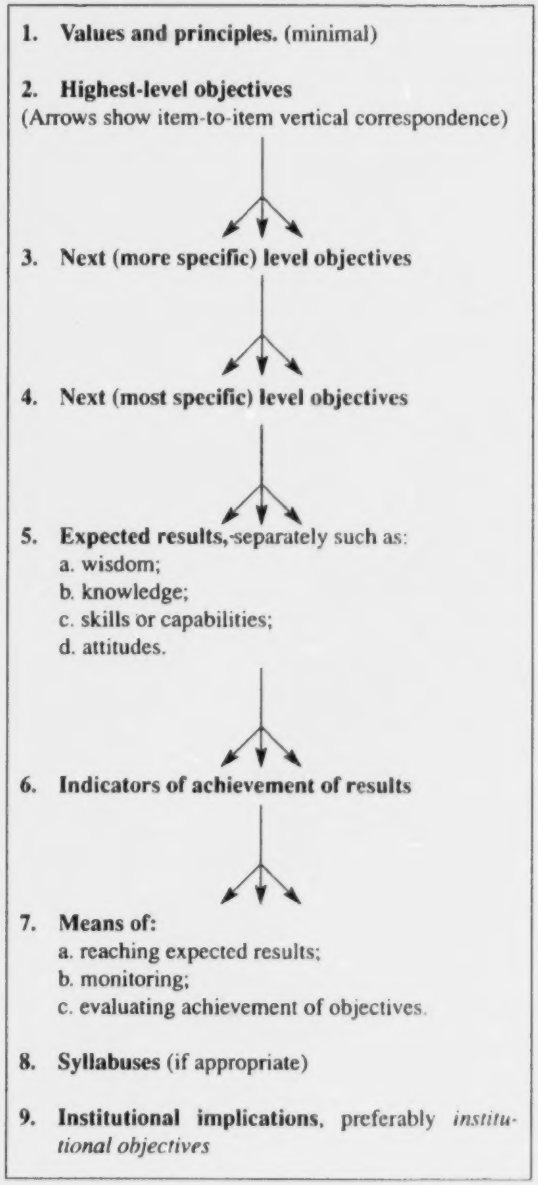
other objectives. The next-lower objectives are justified by those of the former type. Such justification of specific objectives in terms of specific higher ones may or may not appear in the text of the document, but it certainly should be attempted by the drafting team to avoid the tendency for flowery language and obscure implicit justifications. Similarly, the next-lower objectives are identified and linked with those above them, and so on.

A set of principles or values, either general (social, philosophical, religious) or curricular may be necessary to clarify the desirability of the highest objectives, as well as the others. These should probably be limited only to the ones necessary to justify any non-self-evident items among the higher-level objectives. If possible, any other items here should be converted from values or principles to carefully-formulated objectives. This is because, in that way, future evaluations can actually determine the extent to which they have been reached. Also, an objective requires the identification of instrumental aims, or means or measures that are to be used to achieve it, while a value or a principle does not. The inclusion of principles and values outside these parameters may be misleading because readers may be misled into thinking that the curriculum will significantly contribute to progress towards the principles and values, without in fact having any instrumental aims or means to do so.

One should use the OOPP-derived insight that the only acceptable objectives are those that have explicit higher-level justifications, and explicit lower-level instruments for achieving them. This suggests a clear, 'mapped' hierarchy of objectives. It is 'mapped' in the sense of that word as used in mathematics: there is an assigned explicit one-to-one or one-to-many correspondence between items at one level and items at the more instrumental level immediately below them. This achieves as far as possible a reduction of arbitrariness and a completeness of the logic, which may be shown by a hierarchical numbering system.[10]

The organization of the document might therefore look something like Figure 4:

FIGURE 4. A possible structure of a curriculum document


1. Values and principles. (minimal)
2. Highest-level objectives
(Arrows show item-to-item vertical correspondence)
3. Next (more specific) level objectives
4. Next (most specific) level objectives
5. Expected results, separately such as:
a. wisdom;
b. knowledge;
c. skills or capabilities;
d. attitudes.
6. Indicators of achievement of results
7. Means of:
a. reaching expected results;
b. monitoring;
c. evaluating achievement of objectives.
8. Syllabuses (if appropriate)
9. Institutional implications, preferably institutional objectives

1. **Values and principles**, general and curricular—a minimal set, as explained above.
2. **Highest-level objectives**—self-evident or derived expertly from developmental psychology and the potentials inherent in the child and adult; from the desired nature of human life and of this society; and from values such as creativity, equity, justice, compassion, spirituality. Some of these objectives will derive from special contemporary challenges identified in the earlier steps of the CR-ESR approach.
3. **Next level** (more specific) **objectives,** *if necessary;* each justified as explicitly as possible by the specific highest-level objectives above. Some of these objectives will derive from special contemporary challenges identified in the earlier steps. It may be necessary to subdivide these for different levels or types of schooling, if various such levels or types are included in the scope of the exercise.
4. **Next** (most specific) **level objectives** each justified as explicitly as possible by the specific highest level objectives above. It may be necessary to subdivide these for different levels or types of schooling, if various such levels or types are included in the scope of the exercise.
5. **Expected results** (formulated as specifically as is appropriate in the context) or outcomes or *outcome 'standards'* expected in students. Each objective or

set of objectives in the level above should here correspond to sets of expected changes respectively in *wisdom, knowledge, skills and attitudes*.

6. **Indicators of achievement of results**—for each result, a number of factors are provided that indicate whether these results are being achieved. These factors are such that they can realistically be monitored. Indicators are also recommended for showing future achievement of the objectives, though it will not be easy to indicate achievement of higher-level objectives.
7. **Means**—approaches, strategies, methods, activities and tools for achieving the results expected above, and for reaching the objectives. Approaches, strategies, methods, activities and tools for monitoring the indicators and for evaluating: (a) the achievement of the objectives; and, in future, (b) the continued applicability of those objectives.
8. **Syllabuses** detailing the content of the courses. Note that a certain level of decentralization, use of the 'subsidiarity principle' or devolution of authority makes it possible and desirable for schools to develop their own syllabuses, within the wide parameters of a national minimum curriculum. In such cases there may not be any such thing as a national syllabus.[11]
9. **Institutional implications**, preferably in the form of *institutional objectives* for the education delivery systems concerned. These items may or may not be published with the curriculum document, but they are necessary because they represent imperatives or assumptions necessary for the proper fulfilment of the curriculum document. These implications should be reformulated with the planning team and passed to the planning team so that these can revise their institutional planning.

IV. PHASE TWO

The remaining steps of the proposed process are not covered here for reasons of space.

- CR-ESR Phase Two – Planning of education systems reform;
- Step S5 – Logical framework analysis for ESR;[12]
- Step S6 – Specify assumptions and risks for ESR;
- Step S7 – Indicators and measures for ESR;
- Step S8 – Plan results and required activities for ESR;
- Step S9 – Cost analysis.

APPENDICES

APPENDIX I—Steps of a standard OOPP approach

The TEMPUS Manual[11] of the European Commission indicates the following major steps of a project planning team in following an OOPP approach.

Analysis phase of OOPP

- **Step OOPP A: CONDUCT STAKEHOLDER ANALYSIS:** identify groups, people and institutions which are likely to be affected by the project, and identify the key problems, constraints and opportunities they face.
- **Step OOPP B: CONDUCT PROBLEM ANALYSIS:** formulate problems; determine *cause and effect* relationships and develop a problem-tree.
- **Step OOPP C: CONDUCT ANALYSIS OF OBJECTIVES:** develop objectives from the identified problems; identify *means to end* relationships; identify clusters of objectives and determine the project strategy.

Planning phase of OOPP

- **Step OOPP D: DEFINE INTERVENTION LOGIC:** define the project elements, test its internal logic, and formulate objectives in measurable terms (the LogFrame chart is built or rebuilt during this step).
- **Step OOPP E: SPECIFY ASSUMPTIONS AND RISKS:** identify the conditions which are likely to affect the project's implementation but which are outside the project management control.
- **Step OOPP F: IDENTIFY INDICATORS:** identify ways to measure that progress has been achieved, formulate indicators, define means of measurement.
- **Step OOPP G: PREPARE ACTIVITY SCHEDULE:** determine the sequence and dependency of activities, estimate duration, set milestones and assign responsibility.
- **Step OOPP H: PREPARE COST SCHEDULE:** specify inputs required, develop cost schedule, prepare detailed budget.

APPENDIX II—Three variants of the LogFrame chart

We show on the following page, for the purposes of steps S5 to S9 of the present paper, three variants of the LogFrame chart, the tool that helps planners to make a logical framework analysis of a project being planned, or of an existing project. Essentially the same logic is involved. Some large donor agencies have adopted one or another of these and require it to be used by the applicant in all applications for funding. Variant A is the most elegant, complete and easy to remember. Variants B and C appear to be attempts to use a smaller number of cells. The basic idea is the same in all three variants.

APPENDIX III—Example of a list of stakeholders

This is an actual list of stakeholders related to the curriculum review and education system reform process in a small country.

The processes of curriculum review, and of educational reform based on it, necessarily involve a diversity of attitudinal, political, educational, institutional and cultural changes. It therefore involves also a number of stakeholders, that is, individuals, groups, institutions and categories of persons that have interests in the project. These interests are based on how they will be affected by the processes involved.

The following is a list of some of the main stakeholders in the case of changes to curriculum and delivery systems at compulsory education levels. Note that various specific themes and school-subjects emphasized in the new curriculum—for example gender equity, inclusion, use of information and communication technologies, and many others—bring into the picture a number of related interests and stakeholders. These are identifiable within the public (e.g. women), government, commerce and industry, non-governmental organizations and religious groups. Such stakeholders related to specific subjects have been omitted from the list below or subsumed under wider categories.

A. Categories of individual stakeholders

- Assistant heads of schools;
- Education officers;
- Educators of teachers;
- Employers;
- Facilitators for children with special needs;
- General public;*
- Heads of schools;
- Minister of Education;
- Overseas experts (advisers, trainers);
- Parents of children who are not doing well at school;
- Parents;*
- Students in faculties of education;
- Students who are not doing well at school;
- Students (early and primary school);
- Students (secondary school);
- Suppliers of services and equipment newly de-emphasized by the National Minimum Curriculum (NMC);
- Suppliers of services and equipment newly emphasized by NMC;
- Teachers of subjects de-emphasized in NMC;
- Teachers;*
- Unemployed teachers.

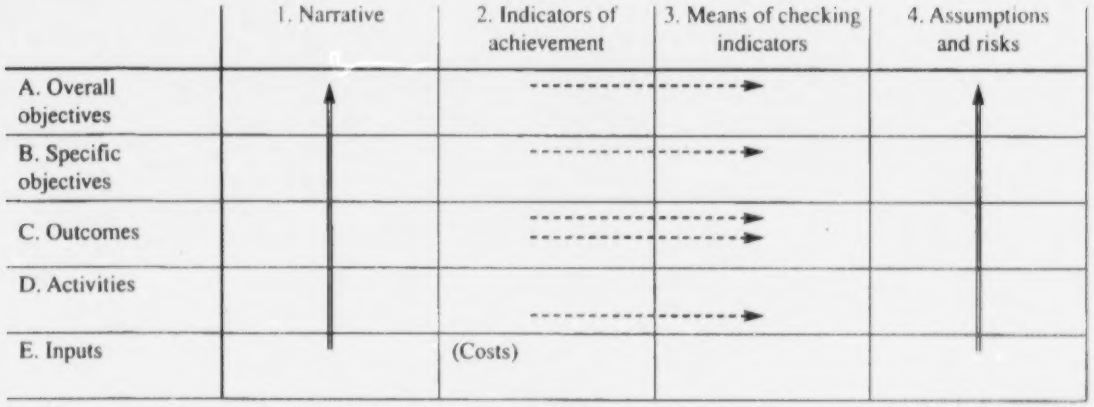
* = *Various classifications are relevant in different subjects and contexts within the process of curriculum review and education system reform.*

B. Corporate stakeholders

- Association of school councils;
- The Cabinet;

Variant A – the 5x4 format

Source: Possibly GTZ, German International Development Agency

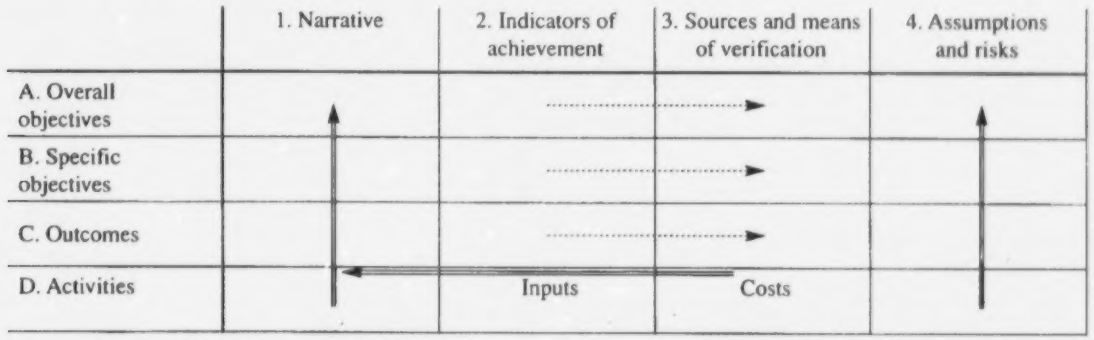


= Vertical logic, related to *achievement*

= Horizontal logic, related to *monitoring and evaluation*

Variant B – the 4x4 format

Source: TEMPUS (European Commission, 1966) [11]

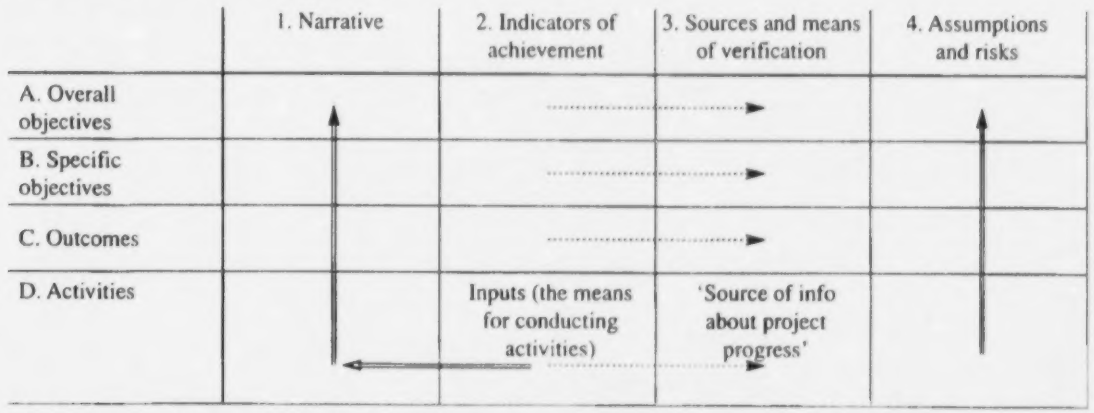


= Vertical logic, related to *achievement*

= Horizontal logic, related to *monitoring and evaluation*

Variant C – the 4x4 format, modified

Source: European Commission, 2001



= Vertical logic, related to *achievement*

= Horizontal logic, related to *monitoring and evaluation*

- Church schools: secretariat for religious education;
- Department of Curriculum Management;
- Department of Student Services;
- Education Division;
- Educational experts;
- Employment and Training Corporation;
- Faculty of Education;
- Government ministries (Social Policy, Public Works, etc.);
- Government party
- Independent schools;
- Local councils;
- Teachers' union;
- Matriculation and Secondary School-leaving Certification Board;
- Colleges of arts, science and technology;
- Members of eighteen specialized groups;
- Ministry of Education;
- Ministry of Finance;
- National Minimum Curriculum, Drafting Committee;
- Opposition party;
- Parent/teachers associations;
- Parliamentary Social Affairs Committee;
- School administrations;
- School councils;
- Shadow Minister of Education;
- Steering Committee on the Implementation of NMC;
- Trade schools;
- University.

APPENDIX IV—Examining the structure of a revised curriculum document

Here we examine the structure of an actual curriculum document. In this case, the curriculum document is in the form of a holistic national curriculum for all schools teaching students of compulsory education age (ages 5 to 18). The document is the successor of a previous document that had been in force for a number of years. However, the present document has been constructed from scratch, rather than by reviewing parts of the older one. The document is not being proposed here as a model, although it was very well received when it was published in its country of origin. It is being examined simply to clarify the broad manner in which its content is organized, and especially to clarify how a hierarchy of objectives is managed in it. This review is being carried out for the purposes of step S4 of the present paper.

The curriculum document being examined is the or National Minimum Curriculum (NMC) of Malta. It is a legally authorized and endorsed national document, obligatory for all state and non-state schools. Malta is a two-party parliamentary democratic republic of just over 1.3 million people spread over only 120 square miles. Between the central structures and the school level there are no regional educational administration institutions, such as school district authorities or departments. The NMC text may be accessed on a web site at http://curric.magnet.doc. For present purposes, the numbering system of the text has been altered.

The NMC is not the type of curriculum that includes the detailed content of courses and classes. The document expects that, in the spirit of the educational aims and guidelines that it proposes, such course syllabuses be created at the school or other level. This expectation is part of a deliberate attempt at decentralizing, or at least diversifying, the choice of lessons, books and resources, and course design, which had previously always been designed centrally for state schools.

The initial pages of the published document present messages from the Minister of Education, the Director-General of Education, the Director of the Department of Curriculum Management, the President of the Malta Union of Teachers, and the President of the Association of School Councils, as well as a preamble.

Part I of NMC—Background to the review process

This section of the published curriculum document (see Box 1) gives the legal background and justification for the creation of a new curriculum document. The purpose of such a text may be to emphasize the document's formal authority to readers, such as parents and teachers, other than those many teachers and parents who have contributed to it in some way. There is also a historical summary of how the curriculum review and re-creation took place (Box 2). The purpose of this summary may be to emphasize the moral authority that the document derives from the participatory methods and wide postal and other consultations that were used to create it.

Box 1. The Legal Framework of the Maltese National Minimum Curriculum – NMC

- Entitlement to education;
- State duties;
- Right of the State to regulate education;
- Minister's right to establish the curriculum; and
- The power to make regulations.

Box 2. The process of curriculum review

The initial stages:
- Establishment of working committees;
- Consultations;
- Analysis and discussion;
- Publication of the draft document;
- Immediate reactions.

Formulation of the final document.

Part II of NMC—Contemporary challenge and educational response

Recognizing the challenges: This section of the curriculum document identifies the social, economic and cultural challenges that face the country today, and from them derive some broad guidelines for education.

The educational response to the cultural, social and economic challenges: This section sharpens the broad guidelines of the previous section into 'responses', remedies or solutions for the education of citizens whose living and working environment will be characterized by the challenges mentioned in that section. The prescriptions appear to be a mixture of the following types of items: overall objectives for learning, overall objectives for change in the education service delivery systems; outcomes expected to result in the students. The text here says:

'The validity of the curricular experience can be judged from the extent to which the educational system succeeds in responding to the realities and challenges that have emerged in Maltese society, in a world that is becoming ever more complex, global and interdependent. It appears, from the process of consultation, that there is agreement among the educational community regarding what should be the parameters of an educational system that prepares students to live and work in a world that is changing rapidly. The educational community generally agrees that a dynamic curriculum should provide an educational experience (1) promotes fundamental values among students; (2) facilitates their holistic development; (3) motivates and prepares them to be lifelong learners; (4) enables them to live a full and productive life in a shrinking global village; (5) prepares them for the world of work, where change is a fact of life.'

There are five sub-sections (see Box 3) to correspond to these five responses. These overall prescribed 'responses' for education are each discussed in more detail with some of their implications also listed in point form within each of the sub-sections.

Box 3. Sections of a dynamic curriculum

1. Values and socialization;
2. Holistic development;
3. Lifelong education;
4. Global perspective;
5. The world of work.

Part III of NMC—The curricular principles

A number of 'principles' are proposed in this major part of the document (Box 4). They are stated to be principles on which the curriculum document as a whole is based, but they are also proposed as tools for educators. Where did they come from? The curriculum drafters were very concerned about social justice and equity, especially the child's right to quality education, gender equity, and other aspects of justice and entitlement. The text here says, 'The principles that shape this document are inspired by the belief in social justice. Each of the principles described are indispensable for the implementation of this socio-educational project [of education].' It seems, therefore, that the drafting team: (a) took into consideration the then current educational practices and results, as well as complaints of parents and other who were consulted; (b) adopted a critical social-justice perspective on certain parts of the education services delivery system; and (c) crystallized their responses to the anomalies in the form of 'principles'. Each of these principles are presented and discussed in the text and possible misunderstandings are disposed of. The overall implications of each principle are presented as guidelines for interpreting the present curriculum, for teaching and for school organization.

Box 4. Curricular principles

Principle 1:	Quality education for all;
Principle 2:	Respect for diversity;
Principle 3:	Stimulation of analytical, critical and creative thinkings skills;
Principle 4:	Education relevant for life;
Principle 5:	Stable learning environment;
Principle 6:	Nurturing commitment;
Principle 7:	Holistic education;
Principle 8:	An inclusive education;
Principle 9:	A more formative assesment;
Principle 10:	The strengthening of bilingualism in schools;
Principle 11:	Gender equality;
Principle 12:	Vocation and competence;
Principle 13:	The importance of learning environment;
Principle 14:	Increasing participation in curriculum development.

Part IV of NMC—Educational objectives

A number of objectives are presented in the text, and a section devoted to each. Each of the following sections is divided into subsections of more detailed aims as follows:

- expected outcomes in terms of *knowledge/information;*
- expected outcomes in terms of *skills;*
- expected outcomes in terms of *attitudes.*

Part V of NMC—Special aims and expected results for the different levels of the education system

Besides the widely applicable objectives given in the previous section, special aims are required for each of the bands or levels of education: early childhood, primary and secondary (box 6). These age-related and level-related educational aims tend to be more specific

Box 5. Educational objectives.

Objective 1:	Self-awareness and the development of a system of ethical and moral values
Objective 2:	The development of citizens and a democratic environment
Objective 3:	Developing a sense of identity through creative expression
Objective 4:	Religious education
Objective 5:	Strengthening of gender equality
Objective 6:	Education on human sexuality
Objective 7:	Preparing educated consumers
Objective 8:	Media education
Objective 9:	Effective and productive participation in the world of work
Objective 10:	Education for leisure
Objective 11:	Wise choices in the field of health
Objective 12:	Greater awareness of the role of science and technology in everyday life
Objective 13:	Competence in communication
Objective 14:	Preparation for change

than the ones in the previous sections, although no schema of mapping has been attempted that links each of the objectives numbered in the previous section to the more specific aims given in the present section.

Part VI of NMC—Part schools and the interpretation of the curriculum
This section encourages decentralization to the school level by challenging the 'educational community' within each school to interpret the curriculum and develop school-level curricula and course syllabuses based on it, using and boosting consensus and democratic processes in education. Heads are told their various special responsibilities in facilitating and supporting this process of school-level curriculum interpretation and development among teachers and heads.

Part VII of NMC—Conclusion
The conclusion indicates some institutional objectives.

APPENDIX V — Case description, step by step.

The following events were recorded by the Policy Unit of the Ministry of Education in Malta, to give a picture of the steps followed in the creation of the NMC of that country and later an implementation plan for the NMC. The process was not smoothly progressive: it took several years and experienced two elections, both of which changed the party in power and ushered in a new Minister of Education. It is not being proposed here as a model. The process did not use the CR-ESR approach being proposed in this paper. It is included here as a non-idealized illustration from reality.

Box 6. Aims and expected results of education specific to the level: early chilhood, primary and secondary.

1. Early childhood education

a. Intellectual development
b. Socio-emotional development
c. Physical development
d. Moral development
e. Development of a sense of aesthetics and creativity
f. Religious development (for those who believe)
g. Effective tools that facilitate the holistic development of children

2. Primary education

a. Learning a repertoire of skills
b. Strengthening of personal and social education
c. Development of enhanced skills, knowledge and attitudes linked to the basic subjects
d. Fulfilling principle of education for diversity
e. Linking summative and formative forms of assessment
f. Implementing a policy of bilingualism
g. The teaching of religion
h. Parent education programmes

3. Secondary education

a. Strengthening and refinement of the skills developed at primary level
b. Strengthening of personal and social education
c. Implementation of the broad aims within the curriculum content
d. Implementing a policy for language teaching
e. Adopting summative and formative forms of assesment
f. The development of projects revolving around themes
g. The teaching of religion
h. Strengthening of emotional development
i. Strengthening parent participation

The first national curriculum was published through Legal Notices 73 and 76 of 1989 and 103 of 1990 in accordance with article 45 of the Education Act of 1988. The Education Act states that the mission of a national curriculum is 'to provide for the full development of the person, including the ability of every person to work'. The process of reviewing Malta's first national curriculum was started in the summer of 1994. Included on the following pages are the major milestones between 1994 and 2001, when the implementation process, approved by Cabinet, became operational.

A. Measures directed by the Minister of Education and Human Resources, Dr Michael Falzon, between 1994 and 1996

1994

19/8	Minister appoints a *Consultative Committee on Education* (CCE).
22/9	Minister and Permanent Secretary meet CCE members and decide period for completion of CCE terms of reference.

1995

April	CCE submits its report *Tomorrow's schools: developing effective learning cultures.*
19/4	Ministry disseminates the CCE report.
29/4	Ministry organizes a national colloquium on the CCE report.
May to Dec.	- Written submissions from stakeholders trickle in. - CCE members continue holding discussions with senior officials from the Division of Education regarding the report *Tomorrow's schools*.

1996

Jan.	Minister writes to CCE members to thank them.
13/3	Permanent Secretary requests Director-General to direct the Department of Curriculum Management to plan and monitor formulation process of a draft curriculum for the Minister's consideration by the 31 March 1998.
27/3	Director-General communicates his mandate to the Director of Curriculum Management.
27/3	Director-General requests Director Curriculum Management to proceed with review exercise.
16/6	Director Curriculum Management forms a Strategy Building Team from among members of the Curriculum Department.
June	Last written submission on *Tomorrow's schools: developing effective learning cultures* is received.
June to Aug.	The Strategy Building Team: - presents a proposed strategy for the curriculum review exercise to Director-General; - proposes and sets up a Steering Committee made up of fifteen resource persons; and - undertakes a consultation exercise with stakeholders.

B. Measures directed by the Minister of Education and National Culture, Mr Evaristo Bartolo, between September 1996 and August 1998

1997

14/2	Steering Committee for Curriculum Review holds its first meeting and decides to: continue consultations with stakeholders and task groups; analyse feedback received; - Determine nature of required document; and - Present first document to Minister by March 1998. The Committee is made up of fourteen members representing the Ministry's Division of Education, the Faculty of Education at the University, the Malta Union of Teachers (MUT), the Association of School Councils, State and private schools, and the National Youth Council.
1997	Stakeholder feedback: - 330 written invitations to participate were mailed; - Written feedback received included 71 state primary and 20 secondary schools, 15 from non-state schools, 23 from education officials, 13 from members of faculty of education, 2 from other education sections, 5 from private organizations and 21 from individuals.

1998

March	Document entitled 'Draft New National Curriculum for Education in Malta for students between the ages of 3 and 16 years' was presented to Minister.
March	8,000 copies of the draft national curriculum were printed and disseminated for the purpose of further consultations.
May	Minister tables draft curriculum document in parliament. Minister in press conference declares November as the deadline for ending the stakeholder consultations.
August	Using a questionnaire, the Division of Education carried out a survey of parents' perceptions of the curriculum at the annual Malta International Trade Fair; thousands of parents filled in the questionnaire. A report was drawn up and presented to the Minister.

August The Ministry publishes a leaflet which is widely distributed at the Malta International Trade Fair. Through this leaflet, the Minister made a number of statements regarding the practice of streaming and about the junior lyceum entrance examination.

C. Measures directed and undertaken by the Minister of Education, Dr Louis Galea, between September 1998 and February 2001

1998

11/11	Minister meets senior Education Division officials to set in motion the continuation of the curriculum review process that had stalled after the March 1998 publication of the draft National Minimum Curriculum.
5/12	Dialogue session in Lija with a group of stakeholders from a range of sectors. Among the forty-four invitees present were: *from Ministry:* Personal Assistant, Private Secretary, Permanent Secretary, Hon J. Mugliett (Parliamentary Secretary) and his PA, Mr Sciberras from Gozo Ministry, Prof P. Serracino Inglott; *from Education Division:* Mr Charles Mizzi, Director General of Education; Ms Mary Vella (Director Curriculum), Ms Carmelina Debono (Direcor Operations), Ms Joyce Pullicino (Director Further Studies & Adult Education, Mr Joe Sammut (Director Planning and Development); *from Faculty of Education:* Dr Ronald Sultana, Dr Paul Pace (Head Dept. Maths, Science & Technical Educ.), Dr Antoinette Camilleri (Head, Dept. Arts & Lang. In Educ), Dr Joseph Mifsud, Dr Mark Borg, Prof Saviour Chircop; *from Drafting Committee:* fourteen members; *from Opposition:* Mr Evarist Bartolo; and *others*: 2 from MUT, 3 from Association of School Councils, 1 from Archbishop's Curia, 1 from St Aloysius College, 1 from Chiswick School, 1 from the National Commission of Persons with a Disability.
11/12	Seminar at the Mediterranean Conference Centre with heads and assistant heads of state and private schools.
15/12	Focus Group meeting at the Palace regarding the language policy. Present were Permanent Secretary, Director-General of Education, Director Curriculum Management, university lecturers, education officers, heads of state and private schools.
16/12	Focus Group meeting at the Palace with representatives of independent and Church schools on impact of curriculum on school management.

1999

12/1	Minister consults a large group of teachers about their views of different aspects of the curriculum.
20/1	Minister meets the shadow minister of education and the MUT Council.
21/1	Meeting with thirty representatives of constituted bodies at the Grosvenor Hotel. Among those present were Mr Evarist Bartolo, members of the Steering Committee for Curriculum Review and representatives of: CMTU, FOI, MUT, UHM, WPDC, SCOOPS, FHRD, ETC, Employers' Association, Chamber of Commerce, Young Enterprise.
27/2	Minister invited to a National Conference on the Curriculum organized by the Association of School Councils, at which the shadow minister of education was also present. Over 200 persons were present. The aim of the Conference was to discuss the contents of a parent-friendly version of the Draft Curriculum published in March 1998 and to formulate a memorandum for subsequent presentation to the Minister.
20/3	A second dialogue meeting with members of the Association of School Councils at which the shadow minister of education was also present. Members of the association presented the Minister with a memorandum.
March	Conclusion of second phase of consultation with educational partners and stakeholders.
June	Commencement of formulation of final document.
Sept.	Finalization of formulation of National Minimum Curriculum. Minister and Policy Co-ordinator (Education) edited final version. Director (Curriculum Management) prepared detailed index and chose illustrations.
Sept.	Cabinet approves the National Minimum Curriculum.
23/9	Minister delivers address *Positive schools—capable pupils* at keynote conference for all secondary school teachers, held in Republic Hall, Mediterranean Conference Centre.
Oct.	Final Draft of the National Minimum Curriculum and its abstract published for the purpose of deliberations by the Parliamentary Social Affairs Committee.

6/10	Ministers delivers a Parliamentary Statement on the NMC and recommends that the Final Draft National Curriculum be discussed by the Parliamentary Social Affairs Committee. He tables copies.
Oct.	Parliamentary Social Affairs Committee invited a number of stakeholders to discuss the final draft. Sittings and deliberations were held on the following dates: October 18–20, October 25–26, November 2 (2 sessions) and 3 (2 sessions).
Oct.	Minister addresses teachers on National Teachers' Day and focuses on curricular reforms and ministry vision and priorities.
11/11	Minister delivers an address entitled 'School and curriculum management: the Maltese perspective' during a Senior Staff Development Seminar for all heads of schools, education officers, assistant directors and directors of education. Seminar organized by the Planning and Development Department of the Education Division at Boffa Hall, Mediterranean Conference Centre.
29/11	Minister publishes a 3,000-word article entitled 'Malta prepares the next generations' in *The management journal*, a bi-monthly publication of the Malta Institute of Management. This important article is aimed at stimulating appreciation of the NMC and related ministry policies by intellectuals.
22/11	Minister delivers a speech on curriculum development entitled 'Landmarks' at the Euro-Mediterranean Conference on the Establishment of a Mediterranean Network on Curriculum Management, organized by the International Bureau on Education of UNESCO in Malta on the 22–26 November 1999.
Dec.	Curriculum printed in two language versions: *Maltese version*: Inwelldu l-Gejjieni Flimkien; *English version*: Creating the future together. Around 20,000 copies printed.

2000

Jan.	Minister writes letter to all teachers and sends them and the Division of Education personnel a complementary copy of the curriculum. Copies on sale for the public through the Department of Information bookshop in Valletta.
26/1	Minister appoints a National Steering Committee on the Implementation of the National Curriculum entrusting its twelve members with the task of preparing a national strategy and plan.
26/1	Minister appoints a Training Strategy Formulation Team to complement the work of the National Steering Committee. 1. Prof. Kenneth Wain, Faculty of Education, University of Malta—Chair of Steering Committee; 2. Dr Carmel Borg, Faculty of Education, University of Malta; 3. Mr Frans Borg, President, Association of School Councils; 4. Mr John Bencini, President, Malta Union of Teachers (MUT); 5. Dr Christopher Bezzina, Faculty of Education, University of Malta; 6. Ms Carmelina Debono, Director (Operations), Education Division; 7. Mr Evan Debrincat, Head, San Andrea School, l-Imselliet; 8. Bro. Saviour Gatt, Secretariat for Catholic Education, Archbishop's Curia; 9. Dr Tony Macelli, Adviser, Ministry of Education – Ministry Rep., & Exec. Sec of Committee; 10. Mr Charles Mizzi, Director General, Education Division; 11. Dr Ronald Sultana, Faculty of Education, University of Malta; and 12. Ms Mary Vella, Director (Curriculum), Education Division.
	Dept of Curriculum places NMC on website: http://curric.magnet.mt
Feb.	National Steering Committee appoints eighteen specialized working groups to formulate a theme-specific plan by May.
Feb.–June	The Ministry, in collaboration with the Department Curriculum Management and the Association of School Councils, organizes community-based short courses and one-off sessions for parents to familiarize them: (a) with the nature, scope and content of the curriculum; and with (b) their role in the development of a school-based curriculum. A number of series of radio and TV programmes are planned and broadcast. The Ministry produces a brochure in Maltese highlighting the principles and educational objectives as enshrined in the National Curriculum for distribution among parents.
April	Ministry prepares and prints a booklet in Maltese highlighting salient points from the National Curriculum of special interest to parents (50,000 copies).
May	All eighteen specialized working groups, made up of 148 stakeholders, submit their written plans to the Executive Secretary of the Steering Committee at the end of May.
Aug.	Minister establishes an Institute for Child and Parent Learning Support (ICPLS) and mandates it, through Legal Notice 135 of 2000, to develop effective strategies to combat the problems of school failure, illiteracy and habitual absenteeism.
9-11/6	A National Conference, *Curriculum on its way: a Conference on the Implementation of the National Curriculum*, is organized by the National Steering Committee on the Implementation of the National

	Curriculum in collaboration with the Division of Education, the Faculty of Education and the Socrates Office. Over 800 professionals and parents participated.
25/7	In exercise of the powers conferred on the Minister of Education by section 47 of the Education Act (CAP.327), Legal Notice 132 of 2000, *National Curriculum Regulations, 2000* is published in the Government Gazette.
Aug.	Editing of Proceedings of National Conference starts.
1/10	On 1 October 2000, the National Minimum Curriculum took effect by law in virtue of Legal Notice LN132 of 2000 related to the Education Act (Cap.327) entitled National Curriculum Regulations.
27/10	The Malta Union of Teachers declares industrial action and directs 'all teaching grades ... not to attend any meetings connected with any matter related to the National Minimum Curriculum and not to implement any proposals contained in the NMC'.
29/12	Steering Committee submits to the Minister its National Strategy and Plan for the Implementation of the National Curriculum.
2001	
5/2	Publication (3,000 copies) of the Proceedings of the National Conference *Curriculum on its way: a Conference on the Implementation of the National Curriculum*, held in June 2000. All papers and action plan proposals of the specialized working groups were included in the publication, as well as workshop reports and a reprint of the National Minimum Curriculum.
7/2	Minister concludes agreement with the Malta Union of Teachers, thus bringing to an end the industrial action declared by MUT that halted a number of NMC implementation measures.
Feb.	Ministry produces an abridged version of the National Strategy and Plan for future publication.
12/2	
19/2	Minister presents to Government for approval the National Strategy, Plan, and Budget for the 2001–2005 implementation of the National Curriculum.

The country is now ready to use a strategic plan for the integral implementation of the NMC

The following is text originating in the Ministry, showing the situation in February 2001: a Strategic Plan has just been prepared for schools, departments, and others to implement the national minimum curriculum.

The National Minimum Curriculum (NMC) comes at a time when school-leavers and adults of all ages are required to be equpped: with skills in the learning and manipulating of information; with capacities to think, to use technology and solve problems; with the ability to relate well to oneself and others; with the transferable skills for taking up employment and taking up jobs; and of retraining and shifting jobs when the jobs become obsolete.

A 'National Steering Committee on the Implementation of the NMC' was created by the Ministry of Education early in the year 2000, with appropriate specific terms of reference, in order to create a Strategic Plan for the implementation of the NMC.

As a means to create the Strategic Plan for Implementation of the NMC, the committee has continued the participatory process that had given birth to the NMC itself. There are many stakeholders in curriculum change and educational system change, and many of them have a right to participate. The composition of the committee reflected the involvement of major stakeholders: Division of Education, Ministry of Education, teachers, educational experts from the Faculty of Education, church schools, independent schools, Association of School Councils. The committee worked in such a manner as to reinforce and develop the participatory processes that had led to the creation of the National Curriculum itself, and to use those processes to generate the required components of the Strategic Plan.

The main features of this participation-generating work have been: the publication of the NMC, meetings and courses for parents and for teachers and for heads, questionnaires to state and non-state schools, a special questionnaire for church schools, meetings for parents, many public media programmes and articles, 120 experts and practitioners in eighteen specialized working groups proposing action plans, a national conference of 800 persons discussing and augmenting those action plans, a compilation of questions and troubling issues as perceived by teachers and heads of schools, and various work contributed through the Education Division. During this work, the following stakeholders were themselves engaged as the active facilitators of participation among yet other stakeholders: The Steering Committee itself, the Education Division, the Association of School Councils, the Secretariat for Catholic Education, and members of the Faculty of Education.

Less than a year after the setting up of the Steering Committee, at the end of 2000, the committee completed its work on time and submitted their consensual report. As a result of the participatory methods mentioned

above, we now have a comprehensive strategy, in the form of a Strategic Plan for Implementation of the NMC, with several strategic goals and with 140 Targets for schools and other bodies to reach within five years. But, equally importantly, we now also have a certain readiness and a considerable sense of ownership among teachers, parents, and others. Common sense, local experience, and wide international experience has shown that such participation and sense of ownership of the process are quite essential components of successful curricular review and corresponding education system reform

And now the time has come for a comprehensive and holistic implementation of all aspects of the National Minimum Curriculum, through the use of the strategic implementation plan. This will complete the process of making sure everyone has the basic skills for taking part in the world of today: literacy, numeracy, computer education, curiosity, learning skills and problem-solving skills, and skills of how to relate to oneself and others. What the country now needs is the human energies, the school-based school development plans, the implementation structures, and the monitoring and evaluation mechanisms that bring about such basic results, and other results of higher standards that bring us to par with several European countries.

There is much to be done, and much co-ordination is required. Much creativity needs to be stimulated at school level and other levels, and much expertise is still required. We have seen that it is quite necessary to have a steering body, a tailor-made institution that carries out the central functions required for this implementation process. Thus a new central institution was found necessary to oversee and manage activity in schools and other contexts according to the Strategic Plan. Such an institution was designed and proposed by the committee in their report in the form of a National Curriculum.

A number of expert and experienced focus groups need to be set up in association with the NCC, each based on a school subject or a NMC theme, to deliver expertise in those areas to the NCC, and to deliver customized needs-based support services to schools, including training, assistance with planning, school-level policy drafting and so on. The focus groups will, each group in relation to its special subject, keep themselves informed; develop new knowledge; support schools; help schools in networking and in managing research and project bids; and help integrate the different focus groups' efforts work and results so that a holistic approach in maintained in curriculum-based change. The focus groups will be accountable to the National Curriculum Council.

The many obligatory targets to be reached by schools and others are phased flexibly over the period from February 2001 to June 2005 depending on the special needs and emphases desired in each school. A number of priority requirements for the level of Ministry of Education have also been identified in the report, and my Ministry has taken note of them.

The Strategic Plan is not a substitute for the National Minimum Curriculum, nor is it a substitute for the creativity and autonomy of schools. Schools should follow the National Minimum Curriculum in other ways besides reaching the targets listed in this plan. The targets allow and encourage a great deal of initiative and policy-making at school-level. For work outside these targets, the strategic goals outlined in the present plan, as well as the NMC itself, will provide the required guidance.

Notes

1. The following historical summary appears in http://www.logframe.com/lf.htm, the web site of Team Technologies, Inc. 'The Logical Framework is a project planning approach designed by Practical Concept Incorporated (PCI) for the United States Agency for International Development. In late 1969 its president, Leon Rosenberg, created the original 16-box matrix in response to the Agency's need for improved monitoring and evaluation of its project portfolio. The initial intention of the LogFrame was to monitor and evaluate projects. However, users quickly discovered its added value for project design and implementation planning. The matrix was essentially a results-oriented approach to project design that began with a cause and effect model of the project's interventions and their intended impact on customers and clients. By the late 1970s, the Matrix was used widely by international technical co-operation agencies, however, it was not until the introduction at the German Technical Co-operation Agency (GTZ) in 1981 that the real power of the method was discovered. R. Moses Thompson, Claire Wheatly and Larry Posner of PCI worked with Lutz Zils and Ulrich Winkler of the GTZ to transform the LFA into a collaborative, client-centred methodology they called ZOPP (objectives oriented project planning) and then installed it globally for the agency. Thompson created a ZOPP Moderator (trainer/consultant) training program that produced a cadre of professional moderators in more than 100 countries. R. Moses Thompson went on to establish TEAM Technologies, Inc. to help further develop PCM-based [project-cycle management] methods and help organizations install them on a sustainable basis.'
2. GTZ stands for Deutsche Gesellschaft fur Technische Zusammenarbeit.
3. The wide scope of our present scenario at a large-country level may probably be better served by a designing, not a 'project' but a 'programme', in the sense of a group of 'projects' each implementing one of more of the aims of the wider programme. Such a situation is also susceptible to OOPP planning methods, and the wider aims of each such project would be the specific aims of the wider programme. However, such considerations are being omitted from the present paper in the interests of simplicity.
4. In certain scenarios the two phases may overlap to the extent that step S3 may be found to take a long time and, before being fully completed, may nevertheless permit the second phase to start with step S4.
5. Phase Two, the planning phase of education systems reform is to be covered in a separate paper, Part II (forthcoming)

6. In the future step S3, the public input should be on questions such as: What should be the aims of education? In Step S4, opinions can be invited on non-final drafts of a curriculum document.
7. A tool for tracking system-wide evaluations is proposed in Tony Macelli, *The evaluations map: a framework for examining educational evaluation mechanisms, detecting systemic problems, and supporting educational reforms*; Oct. 2000, an unpublished document for the International Bureau of Education, Geneva. It was prepared for IBE/BIE-MED Thematic Group 9: 'Implementing evaluation systems of educational reforms which help support changes' of the Mediterranean programme of International Bureau of Education, UNESCO.
8. Such standards-based curriculum design is common in the United States.
9. To derive these from a comprehensive problem-tree and objectives-tree would probably require a map of 'the human condition'! In utilizing objectives from among those already formulated elsewhere, the drafting team acknowledges that they are not in the business of re-inventing wheels, except where necessary.
10. E.g. for a downward one-to-many mapping, as shown in the diagram, Level One: 1, 2, 3 ... ; Level Two: 1.1, 1.2, ... 2.1, 2.2, ... ; Level Three 1.1.1, 1.1.2, etc. Sometimes however, there will be the need for a downward correspondence of the many-to-one or even many-to-many type, something that is difficult to achieve with a numbering system!
11. School-leaving certificate syllabuses, if they need to be uniform for recognition of the certificate, may constitute constraints that restrict the creativity of the schools to create their own school curriculum and syllabuses. There is not necessarily an easy solution to this dilemma; it may be partly seen as the conflict of the student's own interests with those of employers and the world of work. University-entrance examinations may similarly pose a constraint on what teaching and learning may take place in late secondary school years, and this may be resolvable to some extent if universities are involved in the setting of curricular objectives for the late secondary school years.
12. Please see Appendix II entitled: 'Three variants of the LogFrame chart' for the framework to be used here.
13. This manual is obtainable free of charge from http://www.etf.it. Technical assistance to the European Commission for the implementation of Tempus is provided by the European Training Foundation, *Villa Gualino* Viale Settimio Severo, 65 I-10133 Torino Tel: (39) 11 630 22 22; Fax: (39) 11 630 22 00; e-mail: tempus@etf.it; www.etf.it
The manual indicates that 'Tempus (the Trans European co-operation scheme for higher education) was adopted by the Council of Ministers of the European Union on 7 May 1990 and was since twice extended, with [an] extension lasting until the year 2000. Tempus is a European Union (EU) programme designed to stimulate co-operation with the Partner Countries in Central and Eastern Europe and the New Independent States and Mongolia in order to support the reform of their higher education systems. Tempus forms part of the overall EU initiatives to support economic and social restructuring of central and Eastern Europe (Phare programme) and to foster the development of harmonious and prosperous economic and political links between the European Union and the New Independent States and Mongolia (Tacis programme). In 1997 a total of 26 Partner Countries took part in Tempus. Funding is provided through Action Programmes, the individual amounts per country being the result of negotiations between the European Commission and the Partner Countries.'
'Tempus is a 'bottom-up' programme responsive to the specific needs of individual institutions and Partner Countries. Projects are formulated by universities in the Partner Countries in cooperation with their partners from the European Union, where the EU universities supply their know-how and experience. Tempus supports high quality projects aiming to restructure and develop curricula and teaching materials, upgrade teaching facilities, and/or improve university administration in higher education institutions in the Partner Countries. Tempus does this by providing financial grants for co-operation projects between higher education establishments in the EU and the Partner Countries in priority areas which are defined by the respective Partner Countries and the European Commission and which are in line with the overall socio-economic reform process of these countries. '

The management of curriculum change

Ashok Ganguly

I. INTRODUCTION

The process of curriculum mapping and its territorial adjudication is a matter of debate and concern to all stakeholders. The content and process of curriculum transactions and its implementation have always been impacted by the social, cultural, economic, technological and other contemporary concerns of a society and a nation. As all these factors have never been static in a vibrant and a progressive society, and as civilization has always ushered itself consequent to crosscurrents of the thought processes of the people who formed the society, the educational processes too have been vibrant and dynamic at all points of time. Little wonder, therefore, that curricular changes have been a matter of periodic concern to countries all over the world.

There are at least three different types of curriculum: the formal curriculum, the informal curriculum and the hidden curriculum. There are three other curricula as well: the written curriculum, the taught curriculum and the tested curriculum. Thus, there is a 3x3 curriculum matrix at work in schools. Most school administrators only consider the formal written, taught and tested curricula in their work. There is a need to integrate all these versions and manifestations of curriculum.

Curriculum development, curriculum implementation and curriculum evaluation are critical elements of curriculum policy. If development of curriculum is an important process then the implementation of curriculum is no less important.

II. DETERMINE CURRICULAR GOALS

Curriculum is but an embodiment of the aspirations of the nation for its citizens. It is a vision endeavoured to be realized through educational processes. The national aspirations, in turn, are an accumulation of the dreams in different facets of the environment. They are comprehensive in nature. It is from the national aspirations that educational goals have to be derived—for education to be functional, relevant and realistic. In such an exercise of the derivation of educational targets, the following key considerations have to be taken into account.

Firstly, these targets should, in fact, be concrete and specific, enabling a pinpointed development and realization of the curriculum, and not be projected in vague and nebulous terms.

Secondly, because these targets are being listed for realization by the students, they should be stated in terms of learner behaviour. This needs to be specifically mentioned because normally what are set forth as educational targets are goals that are to be realized by the teachers, though it becomes incumbent on the student to accomplish them.

Thirdly, with regard to the *competencies* to be developed and evaluated, it ought to be emphasized that without an orientation to abilities, the mere listing of the themes of *content* remains meaningless and motivates only memorization. The inclusion of evaluation practices and procedures to be adopted enables us to spare a thought to the fact that what is being attempted to be developed can also be judged for its effectiveness in accomplishing the set goals.

Fourthly, targets are often raised to such unrealistic levels that it is practically impossible for the students to attain them with the available inputs at their disposal in the course of their pursuit of the curriculum. This makes everybody grope in the dark without being clear about what they have to accomplish.

Fifthly, targets are frequently enumerated in such global terms that it becomes almost impossible to precisely comprehend what is being conveyed as well as how it is meant to practically translate itself in specific contexts.

The design of a curriculum has never been a simple process and has always necessitated entertaining all emerging issues at all intervals of time. The total review and modification of a curriculum, hence, needs a reasonable hiatus as it may change its direction substantially over even a short period. Such changes call for a grass-root level reorientation of functionaries implying phenomenal expenditure. In a fast-changing social fabric, long durations for curriculum modifications have not been seen as desirable—even more so given the influx of information in a globalized world and its facile access by the consumer. There is an urgent need for curriculum updating even while it is being implemented and the curriculum managers face the uphill task of managing curricular change during its implementation.

Any process of curricular revision during the life span of a curriculum should ensure that the major objectives and goals are not altered. Changing horses in midstream does not help. A revision's sole aim should be to enliven the existing structure and fabric to make it more vibrant. This exercise should be comprehensive, focused and relevant. While it should be user-friendly, one should not adopt a piecemeal approach, but the entire exercise should instead be based on a holistic approach that sensitively ensures that the interest of all the stakeholders are taken care of.

The basics of any such exercise on curricular revision during implementation should take cognizance of its impact on the formal, informal and hidden curricula. It is, therefore, necessary that the inputs should percolate to all levels of the curricular edifice homogeneously, laterally and vertically. The changes effected should have symmetry, correlation and should identify with the existing curriculum so that it does not end up being only an exercise in window-dressing on the part of the curriculum manager to please a particular interest group.

III. CURRENT TRENDS

The following developments are likely to be influential in the first decade of the twenty-first century:

1. Increased importance of national and state norms

Norms will ensure that the citizens have shared knowledge. They will result in greater efficiency. Additionally, norms will encourage state and local boards to raise their standards, improve the quality of schooling, and ensure a large measure of educational equity.

2. Movement towards decentralized, school-based curriculum development

While there is increased interest in setting curriculum standards at both the national the state levels, there is a simultaneously growing interest in having some flexibility in school-based curriculum development.

3. Increased interest in constructivist curriculum

It has its strongest impact on science and mathematics curriculum. Learning strategies should be taught in the context of solving problems.

4. Development of new approaches in vocational education

Emphasis on generic skills. These general, transferable skills can be used in many situations. The object is to equip the students with skills that will enable them to function in a changing economy and new situations.

Emphasis on integrating academic and career education. Greater integration of the two is required in order to reduce the dysfunctional barriers between academic and career curricula.

5. Development of integrated curricula

It is used to denote curriculum units that combine content from two or more disciplines. Though research generally supports the use of integrated curricula, some problems are associated with their use.

6. Institutionalization of technology

The use of the computer to manage the curriculum and to facilitate student learning is now widely accepted. Use of sophisticated technology will continue to increase.

IV. THE FOUR CURRICULUM LEVELS

1. State-level functions

1. Develop curriculum frameworks;
2. Develop and use tests and other measures of evaluating performance;
3. Provide the local districts with the resources necessary to develop and implement quality curricula;
4. Periodically review state frameworks.

2. District-level functions

1. Develop a vision of quality curriculum based on the goals of the state.
2. Identify a common programme of studies and curriculum requirements for each level of schooling.
3. Develop the documents for the core curriculum related to each subject.
4. Select instructional materials.
5. Provide fiscal and other resources needed at the school level, including technical assistance.
6. Evaluate the curriculum.

3. School-level functions

1. Develop a vision of quality curriculum for every school that is harmonious with the vision of the districts.
2. Develop in-house programmes of curriculum transactions.
3. Determine the nature and extent of curriculum integration.
4. Assist in the implementation and monitoring of the curriculum.

4. Classroom-level functions

1. Develop yearly plans.
2. Develop units of study.
3. Enrich the curriculum and remedial teaching.
4. Evaluate the curriculum.

In introducing and managing changes, the curriculum manager has to keep in mind the following points:

- the need for a change;
- selection of the content;
- organization of the content;
- selection of learning experiences;

- organization of the learning experiences;
- methods and means of evaluating the learner.

He should address the following questions:

- Are the changes desirable or inevitable?
- Do these changes reflect the latest trends in a global context?
- Does the content provide just additional enrichment or newer dimensions in learning?
- Do the contents reflect contemporary developments and thinking?
- Do the learning experiences provide an insight into the learning areas?
- Are learning resources available to provide the required learning experiences?
- What steps are to be taken to ensure the effective and meaningful acquisition of these learning experiences by the learner?

The curricular inputs so incorporated should provide a smooth interface with the existing social, cultural, economic and technological aspects of the curriculum. Its modernity should not be in conflict with its ethnicity; its cultural creativity should not undermine the traditional sensitivity. The curriculum should provide flexibility, openness and creativity to justify its intervention into the normal life cycle of the existing curriculum.

V. MANAGING THE CURRICULUM

Curriculum implementation depends largely on the classroom teaching strategies, which in turn depend on the teacher's commitment, competence and training.

The comprehensive management of curricular change demands undertaking various activities that may run concurrently. The basic components of successful curriculum implementation are as follows:

- spelling out curricular contents;
- training and re-training of teachers;
- curriculum delivery and transaction;
- providing learning materials, both for teachers and students;
- measuring learning outcomes; and
- use of ICTs.

It is therefore a question of overlapping layers of activities. The focus should be on ensuring minimum levels of learning at each stage, and that subjects are taught in a way that promotes understanding and thinking rather than recall and memorization.

There are several approaches to curricular interventions. However, care should be taken to ensure that these interventions are finely tuned to the existing structures. The interventions could be selective, partial or spread over the length and breadth of the territory covered by the curriculum. It could focus on lateral knowledge or on vertical thinking. What is important is the quantum and quality of management and planning that facilitates in smoothly synergizing the changes with the present spectrum of operations. A few approaches may be as follows.

1. The frontline approach

In this method of curricular intervention, emphasis is laid on introducing the latest information to an extent of say 10% of the existing quantum of the content. The selection of content is central as this should be able to provide the learner opportunities for imbibing the current knowledge. The purpose is that the learner is familiar with the life processes and the thought patterns of the present society, its scientific and technological achievements, economic activities, challenges, threats and opportunities. Such interventions could be done selectively, subject-wise and in a phased manner.

2. The constructivist approach

The foundations of the curriculum could be reviewed for reinforcement of such inputs, which are contextual and need to be incorporated so that the learning process is more effective. The content, the learning materials have to be carefully scrutinized so that the interventional inputs construct a sound edifice and the learner experiences continuity and coherence. However, it is important to ensure that such reviews do not distort the established and defined aims and objectives of the curriculum. The content material should be objective and free from any bias lest it cause aberrations in the learning contexts and experiences. It must also be ensured that such inputs are not excessive.

3. The social context

The explosion of information technology

The movement from an agricultural economy to an industrial one brought about a change from classical vertical thinking to that of analytical thinking. This warranted a change in the learning processes of the people of the industrial society and the curriculum had to respond to these changes. A similar situation arose with the ushering in of the information technology-based economy to the industrial economy. However, the changes that occurred this time were faster and more extensive, and the curriculum had to respond at an equitable pace. The thought process of the people has now shifted to lateral thinking, exploring unlimited opportunities for discovery and innovation. The curriculum has little option but to meaningfully respond to this call. The amount of information being extensive and the life span of the information being so short, the curricular response and intervention has to be almost instantaneous—this is only possible during the normal life cycle of the existent curriculum.

Knowledge society

The emerging dimension is one of a knowledge society. The key player in this area is artificial intelligence. The human response to creating a base for effective organization and manipulation of the tools of artificial intelligence needs critical study and review. The emphasis is not merely on assimilation and retrieval of knowledge

but in knowledge synthesis and knowledge economy. The entire focus of curriculum and the *modus operandi* of its implementation have to be carefully designed.

Consumerist tendency

The consumerist tendencies affecting the market dynamics do not spare the educational scenario either. In trying to make interventions at short intervals, care has to be taken that we do not succumb to these pressures. The broad objectives of the curriculum in strengthening human excellence have to be nurtured and nourished. Electronic media impact the minds of youngsters and seem to breed psychological violence. It is necessary to offset the consequent mental turbulence by appropriate inputs of emotional intelligence.

The role of the teacher is changing from that of a moderator and facilitator to that of a co-learner. The thrust will be on self-learning and hence the modules of learning have to be appropriately designed.

External influences on the curriculum

Even while the educational agency is not addressing itself to a curricular review, it must be admitted that the learning situations and learning experiences are being continually modified on their own by the impact of global information flow, thanks to the explosion of information technology. New software materials to enrich the educational content and the pedagogy available in the market and accessible to any learner provide not only additional inputs, but also additional experiences affecting the thought process of the learner. The learner would like to translate those experiences into the classroom and into the curricular framework, whether or not he is called upon to do so. Such experiences may have relevance to all the three domains: cognitive, affective and psychomotor. The teacher needs to be sensitized to handle these situations with a sense of confidence and conviction. Management of curricular interventions of such kind is a major challenge to curriculum managers.

It must also be admitted that the ascent of the technological interface with education has had a direct and a powerful impact on teaching methods. The methods of classroom teaching and the tools applied for effective learning too will have to change. The use of print media alone will not suffice and even the treatment of the content through the print media might attract changes.

A decline in rote learning and an emphasis on understanding and application will be a dire necessity. Concepts of lateral thinking and critical thinking skills need to be integrated in developing and implementing the curriculum. Ability to communicate effectively and meaningfully will be required and hence the language skills in classrooms have to be enlightened to a communicative approach. The decreasing importance of literature, poetry, arts, etc., will be a matter of serious concern to the educational agencies and administrators and appropriate strategies have to be developed to cope with the situation.

Education being a broad-based concept, it has to take care of the holistic development of the learner. The emotional balance of the learner will be critical in a progressive and dynamic society where there will be increasing problems of communication. It is in this context that the educators will be called upon to give a greater thrust to areas related to emotional intelligence. All curricular interventions have to take care of the affective domain and strengthen the same.

In order to achieve a balanced emotional and cognitive base in the curriculum, focus will be on interdisciplinary approaches to learning. To ensure that curriculum does not get heavily loaded, conceptual aspects relating to population education, adolescent education, value education, peace education and cultural education, etc., may be integrated suitably within the existing scheme of studies.

4. Following the implementation

Periodic monitoring of growth

The success of a curriculum can be determined by taking stock of the realization of the set objectives. Such monitoring has to be periodic, so that it is possible to provide some timely inputs in case shortcomings are noticed. Such monitoring should be so designed as to cover the *quantum* of growth among children realized through the curriculum. The *degree* of realization in respect of each identified aspect in previously mentioned quantum also deserves to be assessed. This, in fact, will be an important indicator of quality. In addition, it is also worthwhile to monitor the *pace of growth* of the students. This will vary from student to student. The significant outcome of such a process of monitoring will be the diagnostic inferences obtained for purposes of providing *remedial programmes* for greater equity (i.e. strengthening the weak) and *enrichment programmes* for bright students.

Infrastructure for curriculum change

A permanent infrastructure for shouldering the responsibility of managing the curriculum change is essential. Besides the generalists, it will also be necessary to have subject specialists for smoother and satisfactory implementation. The principals will need to work in close collaboration with the district leadership.

While policy decisions indicating the broad paradigms can be taken at the national/state level, it will be necessary to take a number of other decisions at the regional/district and the local levels to ensure that the curriculum is kept relevant to the felt needs at the grass roots. This will naturally necessitate the establishment of small teams operating at the regional and the local levels. To carry out the curriculum-related tasks, a curriculum task force may be appointed. The teams functioning in this area while working at the different levels are effective only if they function as a hierarchy with interdependence amongst themselves.

The role of supportive institutions in successful management of curriculum change is very critical. There

must be such supportive institutions at the school cluster, district, state and national levels.

Curriculum revision must be undertaken based on feedback received during the implementation phase. The critical information received from different sources should strengthen development of curricular policies. Periodic reviews are also necessary to identify gaps and missing links for necessary correction.

Upgrading the skills of curriculum teams

To be able to work progressively and scientifically, it is imperative that the people engaged in the task of curriculum review and renewal continuously upgrade their skills and catch up with the latest developments instead of just depending upon their experience as their sole professional equipment. Towards this end, in-service education programmes will be called for. For the senior level personnel, such training could even take the form of inter-country courses. This top-level team, after getting abreast of the developments in other countries, may design courses aligned to the national needs for the training of second- and third-level functionaries. Such training programmes will need to be built into the total schedule of activities with the provision of both time and money.

In addition to such formal training programmes, it would be highly beneficial if periodic meetings for exchange of experiences are also planned and conducted on a regular basis. These are likely to be very useful as the parallel teams working on the same programmes at different locations will be able to learn and gain from the experiences of their counterparts on how they have attempted to face and solve the problems that come their way.

VI. LOOKING AHEAD

Futurism in education is a topic of concern to all educators. There are numerous models available about what schools should and could be like in the future. What is needed in the future is an education system that serves individuals in successfully coping with the changing demands on them.

To conclude, some of the thrust areas of the future are:

- providing all learners with common skills;
- assisting individuals in becoming adaptive;
- guaranteeing learning by whatever means needed;
- recognizing the emergence of web-centric curricula;
- offering professional support to develop text books and other reading materials;
- calling for more synergies in the classroom environment rather than mere individual participation;
- emerging societies will be anticipatory in nature, hence the need for the component of future studies to be integrated in the curriculum;
- moving from knowledge testing to competency certification;
- curbing the tendency of one-shot learning and evaluation by commercial enterprises;
- using schools to engineer social development;
- shifting from an ad hoc to a systematized approach to manage curricular change, which will lead to institutionalization of a framework for this purpose; and
- training in various aspects of classroom transactions, including team teaching.

The monitoring and evaluation of curriculum reforms

Phillip Hughes

I. THE CONTEXT

Curriculum evaluation needs to be considered together with the nature of curriculum reform, as evaluation is central to the reform process. Curriculum reform is universal. Every country is involved, sometimes with similar aims, sometimes with different aims. In China, the extension of compulsory education from seven to nine years provides the basis for curriculum reform and is now accompanied by a Joint Innovative Programme with UNESCO to improve the quality of teaching. In Cambodia, a major project underway is to improve the quality of public examinations. Weaknesses in the administration of the examinations had brought them into disrepute so that the results were no longer trusted. The project seeks to establish publicly accountable methods of examining and administration. In the United Kingdom, twelve years after the introduction of the National Curriculum, a substantial effort is being made to increase the capacity of schools to evaluate their programmes and to establish procedures to help those that do not perform well. In Japan, a re-emphasis on moral education aims to impart values contributing to social harmony. In Oman, there is a need for the education system to produce more knowledgeable and skilled indigenous employees. In the United States of America, the new president announced an increased emphasis on evaluation and testing as a way to improve student achievement. The patterns may differ from place to place but the involvement with reform is universal. Given the specific purposes behind curriculum reform, it is vital that there are processes to evaluate their effectiveness and efficiency. In other words, it is essential to know what works and what does not.

The motivation for reform does not come from within but from the impact of external circumstances. Almost every dimension of life has changed fundamentally in the past fifty years. World population has grown from 2.5 to 6.1 billion, an increase which is partly linked to the increase in life expectancy from 47 to 64 years. While this is an uneven improvement, it still provides a glimpse of what can possibly be expected from programmes in health and health education. From a period when 300 million were in school and 250 million outside it, there are now 1.2 billion in school although still 100 million children are missing out. This massive effort by countries to increase participation, while being a significant success, also highlights the need to increase the effectiveness of education for those who do attend. Together with the improvement in school attendance there is a parallel improvement in adult literacy rates from 46% to 79%. Given the increase in population this means that there are still 875 million illiterate adults. These and other changes are indicators of the benefits that education bestows on enhancing life's potential and prospects. They also show the desperate need not only for an increased quantity so to speak, but also for quality education, if countries are to be able to manage their problems and strengthen the fabric of their societies. To invest heavily in curriculum reform lends weight to the methods of assessing its effectiveness and on deciding the nature of changes that need to be undertaken in the future.

Many of the changes that are underway make a particular impact on education and schooling.

- Technology and communication: the widespread access to information of all kinds via computer has moved from the 1950s, where there was a handful of computers worldwide, to a stage where there are millions, of greater potential and more available for individual access.
- The world economy: trade and production now flow across national boundaries in an increasingly interdependent global village.
- Ecology: the massive scale of development and correspondingly the excessive exploitation of resources and the resulting pollution that has endangered the health of our planet.
- Peace and security: in an interactive and interdependent global society laden with weapons of mass destruction, harmonious patterns of living together are indispensable, within countries and between them.
- The nature of work: increasingly, work involves a set of skilled tasks, each requiring specialized knowledge and thus the need for teams of people with different skills able to work together towards a common purpose.
- New knowledge on learning: human ability is one of the last areas of untapped resources and is far more rich and diverse than in our past conceptions. Varied

and innovative approaches, new emphasis and the latest technologies can all contribute to significant advances in further developing this potential.

What responses are common in curriculum reform?

- Basic education is an essential prerequisite for all people. Basic education is the provision of a sufficient foundation for individuals to make effective choices on membership of society, on successful access to productive work and on personal well-being. Those people who do not receive an effective basic education are consigned to the margins of society and will be an economic burden and, often, a source of social tension.
- An extended concept of 'basic education', extended both in range and achievement. The breadth of this concept of an enabling education, a choice-giving education, was enunciated most strongly through the Jomtien meeting in 1990, the World Conference on Education for All. The Jomtien Declaration saw basic education as the essential means of defining a broad social purpose, namely the capacity of each person to contribute effectively to society. The statement outlines the need for a much more diverse and demanding set of learning.

> Every person—child, youth and adult—shall be able to benefit from educational opportunities designed to meet their basic learning needs. Those needs comprise both essential learning tools (such as literacy, oral expression, numeracy and problem solving) and the basic learning content (such as knowledge, skills, values and attitudes) required by human beings to be able to survive, to develop their full capacities, to live and work in dignity, to participate fully in development, to improve the quality of their lives, to make informed decisions, and to continue learning. The scope of basic learning needs and how they will be met varies with individual countries and cultures, and, inevitably, changes with the passage of time (Jomtien, 1990).

- Lifelong learning is a necessity. The spiralling growth of knowledge necessitates continuing study if we are to utilize it effectively. Education is no longer a stage to pass through but an activity that is a concurrent aspect of living. Periods of formal learning will need to be undertaken throughout life along with learning associated with activities such as work.
- Values as a central issue. In current curriculum reform the centrality of values is acknowledged as an essential ingredient of any curriculum change. Information is available to an unprecedented extent. In delivering information and the ways to use it, education enhances our capacities in the workplace, in production and trade, in developing the environment and in affecting the lives and health of people around us. If education does not also deal with values then it delivers these unprecedented powers to people who have no guidelines as to their use. It is akin to setting sail without a compass. Education cannot be value-free. It is inescapably a builder of values. The nature of the values it conveys is important not only to us as individuals, but to the type of society we wish to build. Victoria Camps emphasizes the danger of imparting education that is non-inclusive of the issue of values.

> Two points are vital: (a) that education must be the guiding light of democratic culture; and (b) that education is not possible unless it conveys moral values. At a time when modern societies are tending to subordinate all development to the dictates of the prevailing economic orthodoxy, we need to find a way of overturning this monopoly that has the effect of eroding political participation and citizenship (Camps, 1997).

The emphases in the Japanese reforms to be more specific about the values that are central to curriculum reform are echoed in many countries. The emphasis on the outcomes of value-based curriculum makes fresh demands on evaluation.

- Continuing development from evaluation. Curriculum reform is of little use without evaluation processes to assess the degree to which the purposes of the reform are met and to set the guidelines for future action.

II. HOW CAN CURRICULUM EVALUATION HELP?

1. Definitions

Curriculum evaluation is an integral part of the curriculum. The curriculum is the totality of what happens in the education process as a result of intentions—purposes, learning activities, learning outcomes, resources—human and material, evaluation processes, means for change and development, school practices and culture.

Curriculum evaluation is the means by which the value of this total process is assessed. It involves gathering evidence to judge the degree of realization of aims and to enable decisions to be made on future progress. As a guide to decision-making, it needs to be transparent, fully informing the many groups involved in these decisions. Curriculum evaluation has a number of important functions.

- It guides and guards the quality of the education processes and benchmarks the outcomes.
- For public accountability purposes, it provides evidence that public money is being agreeably spent.
- It promotes and improves high quality processes and outcomes at individual institutions and provides a basis to disseminate sound practice, leading to overall system improvement.
- It informs student choice, so that they may make sense of a variety of offerings based on their quality and usefulness.
- It informs parents on the progress of their children and on how to assist their future decisions and work.
- It provides teachers with comparative data on the effects and efficacy of their teaching.

- It is the major effective means of curriculum improvement as it provides information on what works well and what is unproductive or even harmful.

2. Comparisons in evaluation

Curriculum evaluation is essentially carried out through comparisons. The traditional comparisons were between goals and outcomes and this retains its primacy.

- Goals and outcomes. How do intentions and outcomes match? What is the degree of achievement of stated purposes? Traditional methods include examinations at the end of a course and tests administered during it. Some of the long-term outcomes, both desirable and undesirable, are not identified in the course purposes and this is one reason for the necessary extension. However, many decades of experience and study have revealed the need for other comparisons.
- Implicit and explicit goals. In addition to the stated goals, there are often implicit or hidden purposes. These are indicated by outcomes not directly related to the explicit goals. A school may show in its actions a high valuation on sporting achievement yet not include such an emphasis in its stated goals. In evaluation, it is necessary to look at the whole range of activities and emphases of an educational institution.
- Intended and unintended outcomes. It is important to identify all outcomes, intended and unintended. Both of these groups of outcomes will have desirable and undesirable aspects that need to be identified. A major recent reform in New Zealand gave much greater freedom to schools in their budgets, allowing them to admit students from any source and publishing the results of tests for the schools. For many schools this meant a major boost as they attracted new students and the consequent government finance.

  This was an intended result, to provide more choice and to reward good performance. For some schools the process was very harmful as they lost their best students, and with them the finance, and were left with the weaker students and less money for resources to assist them. This was the unintended result. A common example is where a rigorous course may produce effective levels of achievement but also creates a dislike for the subject. Such a finding is common in subjects such as mathematics where there is a high pressure for achievement. Tests and examinations are built around the course goals and are thus unlikely to reveal hidden or implicit goals or unexpected outcomes. Some evaluators recommend 'goal-free evaluation' for this purpose, i.e. a descriptive approach to evaluation, not built on the stated purposes but seeking to identify the full range of outcomes (Stufflebeam et al., 1971). A full range will include long-term outcomes.

  A major benefit of most learning should be an increased capacity and interest in pursuing further learning. To what extent do those who have studied mathematics use mathematics in their lives or continue with the study? To what extent do those students who study literature continue to extend their reading in later life? Do courses in civics that provide greater knowledge of citizens' responsibilities also increase the possibilities of the students becoming pro-active citizens? These long-term aims are often stated purposes of a course but are seldom evaluated because of technical difficulties. The long-term outcomes of teaching are often the most important, even if difficult to assess. The teacher who arouses an early interest in some aspect of learning bestows an invaluable gift. Many students rediscover value from earlier learning much later in life, recalling with appreciation learning and teaching that were not liked or not recognized as valuable at the time. Short-term appreciation by students is of limited use if it does not grow into something more lasting. Motivation for continued learning is a necessity of the same order as having worthwhile courses and experiences from which to learn. If schools are to be part of the continuum of lifelong learning, they must be as concerned in cultivating the will to continue to learn, as they are concerned with ensuring higher achievement in learning. Michael Barber, formerly of the Institute of Education in London and currently principle adviser to Tony Blair on education, comments on this dual need, noting that we have a unique opportunity to achieve these aims:

> Perhaps for the first time in educational history, it is possible to arrive at a curriculum that satisfies this dual need magnificently. The economy and democratic society demand increasing levels of educational achievement from everyone, while the multiple threats to the continued existence of the planet give that drive the ultimate justification. The agenda for education, therefore, could hardly be more motivating. Meanwhile, information technology will provide new and exciting ways of teaching and learning. Moreover, we have, at last, a theoretical understanding of children and young people that will assist teachers in their task (Barber, 1996).

Processes and outcomes. What impact does the teaching and learning process within the course have on the outcome? This comparison relates to our earlier question as to long-term outcomes. The easiest mode of teaching, the didactic approach, with a highly directive style based on information-giving, may yield good results in standardized tests which themselves emphasize information retention, but may have quite different long-term effects. It may fail to engage students and to motivate them for further study. Again, a careful analysis of short- and long-term effects is needed.

- Outcomes for different groups involved in the evaluation. This will include different groups of students, the key people in the process. Many students with strong and supportive home backgrounds find learning easy and customarily make good progress under a variety of conditions. The extension of basic education to all students brings into learning situations

many who lack the background skills and the continuing home support. In all countries, such students have poor results and often leave education without any tangible benefits. The means of reaching such students are not easy but the need is great. They suffer a great handicap in life if they gain little from their basic education. The outcomes for teachers and parents as well as administrators are equally important. If teachers are not supportive of curriculum reform, the chances for success are low. This applies also to parents who can play an important role in helping their student children through difficult periods.

3. Reliability and validity

In making judgments as to the best forms of evaluation, the key properties are reliability and validity. *The reliability of an evaluation* refers to its accuracy, the extent to which the same result will be obtained in a repetition. Thus, for example, the measurement of length is highly reliable, given care and a good ruler. *The validity of an evaluation* is its meaning or significance. In practice, this means the capacity of a measure to predict some other criterion. Thus, a selection test or a selection interview can produce rankings of candidates. The degree to which the ranking agrees with subsequent performance, in a job or in a university course, is the test of its validity. There is always some trade-off between the two qualities. A simple short-answer test can give highly reliable measures of attitude, for example. However, the results on the test may show little relation to the practice of that attitude in everyday life. The validity of the test is low. To obtain better predictions may require more subtle methods, such as observation of behaviour over a set period. Validity is the essential property of an evaluation and the evaluator has the complex task of choosing the most reliable of the valid approaches.

III. THE PROGRAMME FOR EVALUATION: CURRICULUM MONITORING

Curriculum monitoring is the process that can provide information to enable evaluation to be carried out as a regular part of curriculum. This is an essential aspect if curriculum evaluation is to be a reality and not remain in the realm of the notional. Curriculum evaluation must establish a process that is comprehensive but practicable. That is, it must cover the issues raised above but also be workable in schools, colleges and universities. These work places operate under high pressure with their regular programmes and those who have to implement any new system must be convinced that the monitoring will be both practicable and of value to them. The key people are the teachers. Any programme of curriculum monitoring will fail if it does not have teacher support. As discussed below, the support of other people will also be helpful. Monitoring becomes possible and easy to manage where there is a carefully planned system of data collection, carried out on a regular basis as part of the continuing teaching programme.

1. Tools for curriculum evaluation

Curriculum evaluation has changed greatly in recent decades because of studying the experience of the process over that period. A listing of the tools for curriculum evaluation shows the progressive change from simple numerical information to include more descriptive and more revealing forms.

- *Test:* this set of uniform tasks to assess knowledge or ability is the most common form of information provided. It is convenient and easy to control, occurring at a particular time and place and perceived as an evaluation. It provides information in a concise summarized form. Its great strength is its high reliability, given proper design and conditions of implementation. Its major weakness can be a limited validity. Tests may vary from simple and short lists of questions requiring single word answers or a choice among alternatives, to a much longer and more elaborate set of tasks in a standardized form. The process of designing and checking on the reliability and validity of such tests is now highly specialized. Examples are the tests produced for international studies such as the Third International Mathematics and Science Study (TIMSS), and the tests used for graduate entry at universities. Plomp, in a recent paper, asks the question: What can be learned from the international comparison of education results? The work done by the International Association of Evaluation of Educational Achievement (IEA) over thirty years has produced valuable insights. The latest example is TIMSS. Many countries such as England and Australia produce national tests of literacy and numeracy to be able to assess the progress of groups of students and to enable individuals to assess their progress relevant to particular groups. Effective monitoring of student progress requires both regular teacher-set tests and periodic standardized tests for whole groups. The former reveals individual problems in learning of value to the teacher. The latter enables teachers, students and parents to assess individual progress against group norms.
- *Examination*: this is usually a long and formal test given under standardized conditions. It has greater flexibility than a test, as long answers are possible, giving more information to the examiner. Short answer tests do not require the student to organize and express complex information. For this reason, validity can be greater but at the cost of reliability. Essays are difficult to mark with reliability, yet they reveal aspects that are not available from the more reliable short-answer tests.
- *Questionnaire*: a formal list of questions designed for a particular inquiry. This is very similar to a test and with the same advantages and disadvantages and is often used in a mail-out, thus broadening the set of

people contacted. This broadening is, of course, at the cost of being able to control the conditions. A test is administered under set and supervised conditions. With a mail questionnaire, such control is not possible.

- *Survey*: a description of a particular topic or institution in a comprehensive way. This might be an examination of the effectiveness of rural schools, both in terms of participation and performance. This may be done through sending out and analysing questionnaires or, more elaborately, through visits, interviews and telephone contacts. The Internet provides new modes of contact. In the United Kingdom recently, the Ministry established Education Action Zones (EAZ) to combat underachievement in the most deprived urban areas. An EAZ consists of a secondary school and its feeder primary schools and the project provided special support to raise achievement levels. After a year of activity, a survey revealed the following positive results.

  English, maths and science results for 11-year-olds in the first 25 EAZ's improved at level four or above by 11, 16 or 20% respectively in 1998. This compares with 10, 13, and 15% nationally. Truancy has been reduced and the schools report extremely positive benefits from improved partnerships with local business (DfEE, 2001).

  Of interest in this case is the improvement in truancy. This was not part of the original purpose of the change, to improve student performance. These unintended outcomes were, in this case, desirable. This shows the value of such surveys covering a wider area of results than those in the key purposes.
- *Case study*: a detailed study and analysis of a particular instance to provide insights into characteristics and reasons for them. This is an intensive look at a particular situation to penetrate beneath the surface of test results, for example, and seek to determine reasons. Case studies of both success and failure may provide beneficial information and insights to use in other situations. The case study can be of the work of an individual student or of an entire school. The choice of this approach is made where it is useful to explain the causes of results rather than just to describe them. It may well use all the tools described here.
- *Interview*: a face-to-face discussion on a particular topic. This approach is frequently used as data for a survey or for selection purposes for a task or job. Reliability is not high for this tool unless the interview is carefully planned and executed. Low reliability means low validity, also.
- *Portfolio*: a collection of work from an individual or group sometimes produced for a particular purpose. Traditionally this is the means by which artists exhibit their productions, e.g. paintings or sculptures. The proponents of 'authentic evaluation', such as Darling-Hammond (1993) and McDonald (1996) see it as a means of access to a representative collection of an individual's work, revealing development over time and the capacity to complete long or difficult tasks. Examinations with their tight time limits can never reveal these characteristics.
- *Authentic task*: an evaluation task that is close to a real-life situation. As mentioned, the portfolio is one of many forms of authentic evaluation. More traditionally, so is the practical examination although this is limited in its reality because the time is usually set and so is the task for completion. An authentic task is a serious attempt to see if the student has the capacity to perform a task of long-term relevance or value. A student parliament can be one example or an assignment in the community. International Baccalaureate Organization schools throughout the world ask their students to complete a community service assignment as part of their graduation requirements. The task must be useful to others and students are required to submit a written report that, in part, requires them to reflect on their own learning experience.
- *Document analysis*: a study of all the documents produced or used in a given programme.
- *Longitudinal study*: a study of a situation, institution or group repeated over a number of years. This is of great value in determining long-term trends but is difficult to maintain over the period needed. While it can never be a universal approach, careful planning and maintenance of records can make it possible and the results will always be valuable.
- *Exhibition:* an assessment in which students exhibit for some public audience the results of a project they have undertaken or the understandings they have gained from a set of experiences. This is one of the approaches introduced in the Coalition of Essential Schools (Sizer, 1991). The emphasis in the Sizer approach was to ensure that students have the opportunity to undertake a substantial task and to present a comprehensive report or production.
- *Role-play*: an exercise in which people take on defined roles in a play, impromptu or planned. In teaching it is used for students to develop their understanding of diverse viewpoints or new situations. In evaluation, it may be used to test a student's capacity to react to hypothetical but realistic situations, for example, a medical diagnosis.
- *Practical test*: a realistic situation such as an experiment or practical task performed under test conditions. This differs from authentic evaluation in that test situations apply, including a set period.
- *Education indicators*: this involves the collection of information on a regular basis to give an appreciation of the system as a whole or some part of it. Such figures may be straightforward such as enrolments, attendance and progress through the grades. In recent years, OECD with co-operation from UNESCO has taken the lead in devising a set of

indicators that will give a more complete description of a system including qualitative as well as quantitative measures (OECD, 1996). This project, still under active development, aims to devise and use education indicators as a means of providing significant, coherent information and to assist in assessing education systems. There are now indicators covering: the context of education; costs; resources and school processes; participation; staff and results of education. From a list of over fifty indicators, the aim is to reduce to a list of twenty for greater economy and ease of understanding.

The list of evaluation tools above shows the gradual change of emphasis in evaluation to methods that reveal more about the student, the programme and the education system than a set of numbers describing performance at a particular time. After a long period from the 1950s when psychometric methods predominated, using standardized tests, examinations and other methods directed to produce numerical scores, there was a swing towards more broadly based forms of evaluation. These included 'illuminative evaluation' (Parlett & Hamilton, 1976) and 'responsive evaluation' (Stake, 1967), both of which considered the context of the evaluation more carefully and used case studies, interviews and document analysis extensively to provide a fuller description of the programmes under consideration. They also provided a more complete statement about students' learning but at the cost of more time and greater complexity. More recent approaches such as those identified by Darling-Hammond (1993) and McDonald (1996) are inclusive of both strands, numerical measures to assess progress in particular areas and also the more descriptive tools which consider the context and seek to give a more inclusive picture. Prominent among these approaches are case studies, portfolios, exhibitions and authentic tasks.

In a recent analysis of the state of curriculum evaluation, Gipps (1998) points out the inadequacy of relying only on traditional tests and examinations. She makes the point that for current students the capacity to continue learning and to be able to apply learning in new situations will be of great value and these are not identified by earlier approaches to evaluation. Thus while a national system of tests and examinations may help to monitor student progress, it must be supplemented by the approaches described under authentic evaluation.

2. *Summary of necessary aspects of curriculum evaluation*

A broad description of the pattern of evaluation to provide the basis for monitoring will need to include the following aspects.

- *Purposes*. There needs to be a continuous monitoring of the purposes of evaluation to ensure that they remain relevant and that new emphases may be included.
- *Participants and roles*. Many groups have an interest in modes of evaluation and may need to be included in planning in appropriate ways. Legitimate stakeholders include parents, students, employers and teachers as well as governments. Too often curriculum reforms and evaluation proceed without involving teachers actively in the process. No matter how well the initiatives are conceived they cannot be implemented without the support of teachers who will also need appropriate preparation. Similarly, other stakeholders need appropriate consideration.
- *Audiences*. Curriculum evaluations need to be reported in appropriate ways to the different stakeholders. This needs to be kept in mind in the original design so that appropriate information is collected and forms of reporting devised.
- *Collection of information*. The original design must identify all forms of information that will be required for the purposes of the evaluation and the different evaluation audiences. In the example of the English EAZs the information on truancy was important to the judgment on the worth of the new approach. Unless this information had been included in the survey, a valuable outcome would have been unknown.
- *Develop a continuing, self-correcting process*. Any evaluation system will include an on going collection of information on a regular basis, through tests, surveys, etc. It will also involve special approaches at particular times to supplement the regular patterns. Many countries now, for example, co-operate in TIMSS and obtain measures of performance in those areas that are internationally comparable. Many others co-operate in the OECD indicators project.
- *Recognize the long-term nature of educational change*. Many of the purposes of curriculum evaluation are long-term because of the nature of much educational change. The nature of the process for evaluation that is established needs to be suitable to both long-term and short-term use.

CONCLUSION

Curriculum evaluation plays a more important role than ever before. It is also a more difficult role. Its central purpose is to monitor learning achievement of students as the key function of the system. It is no longer sufficient to measure learning achievements solely in cognitive terms. The demands of citizenship have increased. The requirements of employment have become more complex. The decisions needed for individual living are more varied. Thus, evaluation is required to measure a much greater range of human achievements and capacities as well as to monitor the effectiveness of teachers, of schools and of education systems. Over the past three decades, experience and the results of research have delivered the means to increase the power and effectiveness of evaluation. To achieve this increase in practice is the challenge for educators, administrators and politicians.

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PART III:

SUMMARY OF THE PROCEEDINGS

Summary of the proceedings

I. ORGANIZATION

The seminar on 'The Management of Curriculum Change' for curriculum specialists in the Gulf Region was organized in Muscat with the support of the Omani Ministry of Education, the General Directorate of Curricula and Training and the IBE, in co-operation with the Omani National Commission for UNESCO.

All the Gulf countries (except Qatar) were represented at the meeting: Bahrain, Kuwait, Oman, Saudi Arabia and the United Arab Emirates. The Arab Bureau of Education for the Gulf States (ABEGS) delegated its First Counsellor, Prof. A. Al-Humaidan, while the Director of the UNESCO Bureau in Qatar, Mr Bubtana, also attended the meeting. Participants included directors and other high-ranking officers from curriculum development centres or corresponding institutions. Three IBE experts—from Australia, India and Malta—presented their reports on one of the themes of the workshop:

- Planning and designing curriculum change or curriculum reforms in the participating countries;
- Management of curriculum change while it is being implemented;
- Monitoring and evaluation of curriculum change or curriculum reform in the participating countries.

H.E. Sayyid Saoud bin Ibrahim Al Bousaidi, Minister of Education, chaired the opening ceremony of the seminar at the Crown Plaza Hotel. Under-secretaries and officials of the Ministry of Education attended the seminar. Dr Hamed Saif Al-Hammami and Dr Cecilia Braslavsky delivered speeches at the seminar.

II. OBJECTIVES

This meeting aimed at: sharing experiences and expertise on current changes in curricula; examining common problems and discussing possible solutions relevant to the present situation in the region or foreseen reforms; strengthening co-operation between countries and the IBE and UNESCO; reinforcing the requirements for training curriculum specialists; and discussing the possibilities for animating a networking process for Arab countries.

III. HIGHLIGHTS OF THE SEMINAR

After the inaugural ceremony, the Director of the IBE presented the objectives of the seminar. She explained that the Report of the International Commission on Education for the Twenty-first Century envisaged curricular innovations based on the 'four pillars of learning', particularly on the guiding principle of 'learning to live together'. It is time to broaden our vision in view of the environmental challenges, the emerging global information society and the globalized economy. The Gulf countries could examine their common problems, taking into consideration the cultural sensitivities of each country.

This was followed by exchanging experiences about recent and on going initiatives in curriculum reforms in the participating countries. Country reports were presented by Bahrain, Kuwait, Oman, Saudi Arabia and the United Arab Emirates, and, in that order, each country narrated its methodologies of curriculum design and development. Some of the countries also highlighted the areas where improvements are required. A short brief of each country presentation follows.

Bahrain

They have been developing their curriculum for the past twenty years. They have detailed information about measures that could ensure improvements in the field of curriculum development. The curriculum has been implemented according to their needs and requirements. New contents, such as environment and health education, have been incorporated into the school system. They have organized exchange programmes with other Gulf countries for caring and sharing.

They experience a problem with not having specialists in many subjects. Reading is also a basic difficulty, along with the lack of know-how to develop self-learning materials. There is an absence of synergy between the individuals who design the curriculum, draft textbooks and those who are responsible for implementing them. They have separate systems of inspectors and curriculum experts, and their functions are not synchronized, although they are profoundly inter-related.

Kuwait

- In this country new projects and subject contents have been introduced.

- Computer education has been incorporated as part of general education.
- They have developed a competency-based education and training system.

But there is a wide gap between the concept and its actual implementation, since many teachers are not aware of the educational objectives. The weakness of professional capacities among many teachers and a lack of creativity and innovation in their activity are still evident. Improvement is required in classroom teaching. Specialists are not available to make the curriculum enjoyable. There is little contact between the administrators and those who prepare the curriculum. Curriculum development has become an unduly time-consuming process. Discrepancies exist in its implementation and follow up.

Oman

The main features of educational reform are:

- Basic education lasts ten years. It aims to provide students with self-learning skills and to ensure the eradication of illiteracy. There are two years of secondary education in grades eleven and twelve.
- Reforms have been implemented in learning and teaching materials and in the development of new assessment systems.
- New subjects dealing with life skills, information technology (IT) and computers have been introduced.
- Particular importance is given to science and English.
- Educational supervision and inspection have been consolidated.
- In-service training of teachers is provided.
- The country promotes educational evaluation.

There are difficulties in motivating teachers to perform to their full potential. Work pressures are discernable and in-depth coverage in science, mathematics and English is lacking. Teacher training is being imparted based on the cascade system, but this seems to be insufficient as there is a desire to enlarge and strengthen the training system further. Some teachers are not computer literate and require training in IT. Lastly, parents do not appreciate the importance of basic education and sometimes, instead of being of some assistance, they themselves seem to need help.

Saudi Arabia

- Subject matter has been improved and redundancy removed.
- Subject matter related to activity has also been included.
- Computers are accessible in every school.
- Up-to-date educational services, like laboratory equipment and other teaching aids, are also provided.
- There is a system of feedback and suggestions from the teachers, principals and educational administrators, and the necessary revisions of the curriculum are made if necessary.

This country did not specify any difficulties, but feels the need for a comprehensive teacher-training programme.

United Arab Emirates

Salient features are as follows:

- Curriculum development is a continuous process and they have created a national curriculum for all subjects. Both interdisciplinary and multi-disciplinary approaches have been adopted.
- They have no problem in implementing English at the elementary level. There is a new national curriculum in English.
- The prepared curriculum has input from indigenous values.
- Technology and environmental education have been introduced in the curriculum at all levels.
- IT is implemented in Grades I and II of the secondary school. Subjects such as life skills and computer courses for girls in secondary school have also been implemented.
- All secondary schools have computers. Computers are also used for school management.

They are in the process of planning for the education sector up to the year 2020. This country has more or less the same problems described by Oman and prevalent in other Gulf countries.

This review shows that most of the Arab region countries are committed to some form of reform of educational processes, involving curriculum design, curriculum change and curriculum evaluation.

It was made clear to the participants that there was no particular need to follow the Western model. It is not necessary to do the same things that originated 200 years ago. We have to stop reinventing the wheel and instead do something relevant to the realities of our present life. For example, with the increase in life expectancy, do present systems of education have the potential to provide lifelong learning? With the human population facing new illnesses, with economic disparities increasing and with global violence, the education system and its implementation needs fine-tuning to confront these challenges. All these relevant points should be included in the curriculum. Do teachers have enough confidence in children, and vice versa? We have to encourage teachers to contribute to these challenging tasks. We have to identify the real situation prevalent in each country and give shape to our strategies accordingly. There is yet another challenge: that of the introduction of new technologies in the curriculum at all levels of education.

The following clarifications were also made to the participants:

- Curriculum management is not simply a technical issue, but is also a very important political issue. Without political intervention, education cannot be made community sensitive.
- Globalization is an accepted fact. This must be reflected in the curriculum. We have to avoid isola-

tion. So how do we integrate ourselves with the global community without loosing our individual characteristics?

- It is necessary to develop other means of livelihood and reduce the economy's dependence on oil reserves.
- Criticism should not be a luxury. Constructive criticism is essential to growth.
- We have to be creative.
- Parents need to be convinced of the benefit of reform. For this, systematic research is needed.
- Electronic media may be used to convince the teachers and to raise the teachers' competencies.

IV. ISSUES RAISED IN THE SEMINAR

- There is no co-ordination between the people who design the curriculum and the people who implement it.
- The curriculum should be renovated and improved. But how to adopt an integrated/interdisciplinary approach in the curriculum? How to adopt curricula for living together?
- How to develop the capacity for exploiting new technologies, particularly IT?
- The process of globalization should be taken into consideration alongside the need to adopt curricula that are suitable to the local needs and to the needs of different social and cultural groups.
- Does the curriculum strike a happy balance between life skills, humanistic values, science and technology, vocational and technical education, preservation of traditional cultures, etc.?
- Teachers training and improvements in classroom transactions are needed.
- There is a need to develop self-learning materials and to improve communication skills.
- It is necessary to convince the parents to accept all these changes.

In relation to the question of the implementation of curriculum changes, the key questions discussed were:

- How to handle and manage change?
- How to correlate the implementation of the curriculum with its design and development?
- What are the parameters of change that need management?

All these issues were critical and needed to be addressed with clarity and perseverance. The important point is how changes can be institutionalized. The participants' attention was drawn to the following observations regarding the management of curriculum change.

- Managing curricular change should focus on three aspects of human development: to be knowledgeable; to have a healthy life; and to strive for the three Cs (competence, confidence and commitment).
- Management of change depends upon fulfilment of a few pre-conditions: clarity about the change objectives; detailed processes and strategies to implement the changes; monitoring and evaluation strategies of changes at various phases (initiation, implementation and institutionalization).
- Emphasis on generic skills in vocational education.
- Integration of academic and career education.
- Development of integrated curriculum, particularly in science and social science.
- An ability to communicate effectively and meaningfully in classrooms will be required, while language skills have to be based on the communicative approach.
- Greater emphasis on the frontline approach, where emphasis is laid on introducing the latest information to about 10% of the existing quantum of the content, without affecting the entire process of curriculum change.
- The role of supportive institutions in the successful management of curriculum change is essential. In this field, ABEGS can play a very crucial role by providing a common platform for curriculum enrichment and identifying resource persons for the training of second- and third-level functionaries. ABEGS can also provide a platform for the periodic exchange of experiences.

V. SOME COMMENTS FROM THE IBE DIRECTOR

Several points emerged clearly from the discussions and presentations. Reform in education is not seen as an option, but as a necessary response to external factors. However, this still leaves sufficient leeway for individual countries to direct the reforms in ways that suit their specific cultures and values. Further, the effort in reform, as much in the curriculum as in other areas of education, is not a 'one-shot revolution', but involves a continuing effort that calls for a capacity to plan and adapt over long periods of time. A number of factors were identified which were important to resolve in curriculum reform. There were still too few people with appropriate training in curriculum and evaluation. In some places teachers were seen as being resistant to change, while community attitudes to some of the curriculum or organizational changes were not supportive. Better ways of involving teachers and gaining community support were discussed. The universities of the region were notably absent from this meeting and, according to the discussions, play little part in the efforts to implement reform. They were generally characterized as lacking the capacity to contribute to practical endeavours. Changing this attitude seems to be an area where future efforts might be directed.

Where effective curriculum reform has occurred, there has been a co-operative effort involving curriculum specialists from education, teachers from schools and scholars from universities. The interaction between researchers, curriculum experts and those with teaching experience can be a creative one, when the right environment is achieved. Any moves in capacity-building in curriculum reform would need to include the universities, since they have a potentially

strong role to play in curriculum development, and in co-operation with other key players, such as teachers and curriculum specialists in education ministries and departments. Among the solutions offered:

- Utilize available expertise (locally, regionally and from outside the region) to overcome the current lack of curriculum specialists—but the priority is to train local people for the necessary tasks.
- Make better use of universities in the region.
- Create a database for curriculum change.
- Use regular surveys to keep track of progress.
- Benefit from studies undertaken by international organizations, such as UNESCO.

Dr. Braslavsky, Director of the IBE, reacted in the following way:

- The country reports provide evidence of the efforts made in the region to assist educational reform in curriculum development.
- In many countries the patterns of Western societies are being used in the implementation of reform. We need to bear in mind that many Western countries are not proud of their education systems. Are there other choices?
- The reason for this disquiet in Western countries is that they find their systems unable to cope with the magnitude of the changes—social as well as technological.
- Science is providing new possibilities—can we educate people in a manner that they can make better decisions utilizing these possibilities? Lifelong learning is one response to the need to be ready to face continuing change.
- We have heard of your intentions in your countries. What is the situation on the ground? In many countries in South America children are hostile to school and violence often results. Can you convince parents of the value of the changes you are making?
- While science and technology are the more obvious focuses for change, what are the implications for the values you cherish, the values that are part of your traditions? We need to consider how and when to introduce technology. Should we allow market forces alone to decide for us?
- What is the impact of science and technology on culture? We need to keep a wider agenda for change. Languages are increasingly important. Should English be your automatic choice for a first foreign language? Australia teaches 100 languages in an effort to keep alive the cultures of the many groups who make up the nation.
- How far should we go in introducing new technologies at school? The history of education shows the need to take cognizance of new technology, but in order to make of it a servant, and not a master.

VI. ROUND-TABLE DISCUSSIONS

At the round-table discussion, three presentations were made:

- Dr Macelli from Malta on curriculum planning;
- Mr Ganguly from India on curriculum management;
- Dr Hughes from Australia on curriculum evaluation.

These papers are included in full in the previous section.

There was a lively discussion following the papers on practical difficulties in these areas. Among the points made were the following:

- Resistance to curriculum change is a normal response and should not be regarded as necessarily negative. It provides the basis and a starting point for a dialogue with stakeholders, which is an important part of curriculum development.
- A major issue in curriculum reform is the pressure to add more and more content, leading to overcrowding in the curriculum unless other content can be dropped. Many curriculum texts strive to insert new content without reorganizing earlier material or reducing the overall volume to be covered.
- The updating of science education offers particular challenges, given not only the emergence of new knowledge, but also of different perceptions.
- New technology offers great opportunities to add to sources of information, to increase means of access and to vary methods of teaching and learning. Equity of access to this technology will be a major requirement in any change.
- Curriculum evaluation is now more important in the process of development because it offers the opportunity to guide our judgments of past effectiveness and to make decisions on the course of future directions. More varied and realistic approaches need to be included. The paper on curriculum evaluation tabled at the conference outlines the vastly increased range of approaches available for decision-making.
- The preparation of school leaders is now more vital as they play many other roles in addition to teaching, but may have had little or no preparation or experience for these tasks. Specific provision for training needs to be made both for existing principals and for those who aspire to such positions of leadership. Such programmes need to be continuing, as new approaches and new problems will continually emerge.
- Curriculum management is not a simple choice between centralization and decentralization, but rather a careful study as to where various decisions are best made: centrally, at the district level, nationally or regionally?
- The teacher remains a central figure in curriculum change. Without good teachers no change can be fully effective, but good teachers can be even better given well-designed curricula and support materials.
- Our evaluation needs to take account of the full range of our teaching and learning goals, and to do so in appropriate ways. This provides special challenges in areas such as religious education. These challenges need to be faced because students evaluate and judge our learning priorities through our evaluations.

- In too many curriculum changes, the teachers are aware of the required content but do not fully understand the goals. Without a sense of purpose, the teaching of content is likely to be hollow.

VII. DISCUSSION GROUPS

Three groups were formed for follow-up discussions on the themes of the meeting to provide recommendations to the plenary. Their findings included notes on the needs and requirements of curriculum reform in the region, on ways and means of preparing curriculum specialists and on capacity-building in different countries. The groups were particularly required to identify means by which they could maintain the integrity of their own cultures and patterns of education, while still adjusting to the needs made apparent through changes in technology. This put particular pressure on the availability of trained and specialized personnel from the Gulf States, where the current supply is limited. The reports from each of the groups are included in Part VI.

The entire approach followed in the seminar was interactive, participative and purposeful. It helped the participants to identify the problem areas, to suggest various solutions and provoked them to come out with new ideas. It is hoped that a new era of co-operation between Gulf countries and the IBE in curriculum design and curriculum implementation at various levels will follow.

The group meeting on curriculum evaluation noted the following points:

1. *Curriculum evaluation* is an integral part of the curriculum. The curriculum is the totality of what happens in the educational process as a result of: intentions/purposes; learning activities; learning outcomes; resources—human and material; evaluation processes; means for change and development; school practices and culture.
2. *Curriculum evaluation* is the means by which the value of this total process is assessed. It involves gathering evidence to judge the degree of achievement of aims and also to enable decisions to be made on future progress. As a guide to decision-making, it needs to be transparent, fully informing the many groups involved in these decisions. Curriculum evaluation has a number of important functions:
   - It protects the quality of educational processes and the standards of outcome.
   - For public accountability purposes, it provides evidence that public money is being well spent.
   - It promotes and improves high-quality processes and outcomes at individual institutions, and provides a basis to disseminate good practice, leading to overall system improvement.
   - It informs student choice, so that students may make sense of a variety of offerings on the basis of their quality and usefulness.
   - It informs parents on the progress of their children as students and on how to assist their future decisions and work.
   - It provides teachers with comparative data on the effects of their teaching.
   - It is the major effective means of curriculum improvement as it provides information on what works well and what is unproductive or even harmful.

VIII. TOOLS FOR CURRICULUM EVALUATION

Curriculum evaluation has changed greatly in recent decades as a result of studying the experience of the process over that period. A listing of the tools for curriculum evaluation shows the progressive change from simple numerical information to include more descriptive and more revealing forms.

- *Test.* This set of uniform tasks to assess knowledge or ability is the most common form of information provided. It is convenient and easy to control, occurring at a particular time and place and perceived as an evaluation. It provides information in a concise summarized form. Its great strength is its high reliability, given proper design and conditions of implementation. Its major weakness can be a limited validity. Tests may vary from simple and short lists of questions requiring single word answers or a choice among alternatives, to much longer and more elaborate set of tasks in a standardized form. The process of designing and checking on the reliability and validity of such tests is now highly specialized.
- *Examination.* This is usually a long and formal test given under standardized conditions. It has greater flexibility than a test, as long answers are possible, giving more information to the examiner. Short answer tests do not require the student to organize and express complex information. For this reason, validity can be greater but at the cost of reliability. Essays are difficult to mark with reliability, yet they reveal aspects that are not available from the more reliable short-answer tests.
- *Survey.* A description of a particular topic or institution in a comprehensive way. This might be an examination of the effectiveness of rural schools, both in terms of participation and performance. This may be done through sending out and analysing questionnaires or, more elaborately, through visits, interviews and telephone contacts. The Internet provides new modes of communication.
- *Case study.* A detailed study and analysis of a particular instance to provide insights into characteristics and reasons for them. This is an intensive look at a particular situation to penetrate beneath the surface of test results, for example, and seek to determine reasons. Case studies of both success and failure may provide beneficial information and insights to use in other situations. The case study can concern the work of an individual student or of an entire school. The choice of this approach is made where it is useful to explain the causes of results, rather than just to describe them. It may well use all the tools described here.

- *Interview*. A face-to-face discussion on a particular topic. This approach is frequently used as data for a survey or for selection purposes for a task or job. Reliability is not high for this tool unless the interview is carefully planned and executed. Low reliability means low validity, too.
- *Portfolio*. A collection of work from an individual or group sometimes produced for a particular purpose. The proponents of 'authentic evaluation' see it as a means of access to a representative collection of an individual's work, revealing development over time and the capacity to complete long or difficult tasks. Examinations with their tight time limits can never reveal these characteristics.
- *Authentic task*. An evaluation task that is close to a real-life situation. As mentioned, the portfolio is one of many forms of authentic evaluation. More traditionally, so is the practical examination although this is limited in its reality because the time is usually set and so is the task for completion. An authentic task is a serious attempt to see if the student has the capacity to perform a task of long-term relevance or value. The task must be useful to others and the student is required to present a written report that, in part, requires them to reflect on their own learning experience.
- *Document analysis*. A study of all the documents produced or used in a given programme.
- *Longitudinal study*. A study of a situation, institution or group repeated over a number of years. This is of great value in determining long-term trends but is difficult to maintain over the period needed. While it can never be a universal approach, careful planning and proper maintenance of records can make it possible and the results will always be valuable.
- *Exhibition*. An assessment in which students exhibit for some public audience the results of a project they have undertaken or the understanding they have gained from a set of experiences.
- *Role-play*. An exercise in which people take on defined roles in a play, impromptu or planned. In teaching it is used for students to develop their understanding of diverse viewpoints or new situations. In evaluation it may be used to test a student's capacity to react to a hypothetical but realistic situation, for example, a medical diagnosis.
- *Practical test*. A realistic situation such as an experiment or practical task performed under test conditions. This differs from authentic evaluation in that test situations apply, including a set period of time.
- *Education indicators*. This involves the collection of information on a regular basis to give an appreciation of the system as a whole or some part of it. Such figures may be straightforward such as enrolments, attendance and progress through the grades. In recent years, OECD with co-operation from UNESCO has taken the lead in devising a set of indicators that will give a more complete description of a system including qualitative as well as quantitative measures. There are now indicators covering: the context of education; costs; resources and school processes; participation; staff; and results of education.

The list of evaluation tools shows the gradual changes of emphasis in evaluation in favour of methods revealing more about the student, the programme and the education system than a set of numbers describing performance at a particular point in time. After a long period beginning in the 1950s, when psychometric methods predominated using standardized tests, examinations and other methods directed to produce numerical scores, there was a swing towards more broad-based forms of evaluation. More recent approaches are inclusive of both strands, numerical measures to assess progress in particular areas and also the more descriptive tools which consider the context and seek to give a more inclusive picture. Prominent among these approaches are case studies, portfolios, exhibitions and authentic tasks.

IX. EVALUATION OF THE SEMINAR

All three external experts and the staff of the IBE made their evaluation of the seminar independently. Their papers are available in the IBE for the reference of interested parties. Part of one of these reports is reproduced here.

The seminar was the first contact with the Gulf Region and was very useful, giving the curriculum development specialists of that region a better insight about what is going on at the international level in terms of adaptation of the education systems to the important challenges of the new century. At the same time, the IBE learned better what the countries of that region are doing to reform their curricula, particularly bearing in mind the reconciliation between their cultural traditions and modernity. The primary school (first cycle) visited in Muscat clearly showed this effort of combining Islamic courses with learning to use computers and having access to the Internet.

The countries of the region have received many suggestions for reform from various institutions and from different consultants (UNESCO Regional Offices, United Nations Development Programme, British Council, ABEGS, etc.). However, they have been facing some problems in the planning, management and implementation of reform projects due to the lack of competent human resources, and sometimes because of the resistance of educational stakeholders, including teachers and parents. There is no doubt that the particular political structures of these countries also have a great influence in advancing or retarding educational reforms.

It seems that universities in the region have little or no role in conceiving and promoting educational reforms. One of the problems mentioned during group discussions was that 'University professors who partici-

pate in curriculum planning do not have adequate field experience in education'. No curriculum reform can be successful without the sincere co-operation of teachers. And yet, teachers sometimes need to be trained for this purpose. The university has therefore a crucial role in preparing teachers for the implementation of the new curricula. It has to take this responsibility seriously.

The impression was that countries of the region take a serious interest in basic education. However, the latest statistics show that the illiteracy rate is still rather high (between 13% and 28%). It is assumed that many illiterates can be found among expatriates, the older generation, and possibly among girls and women. UNESCO hopes to help overcome these problems within a reasonable period.

There is also no doubt that the education and training of people to satisfy the human resource requirements of the Gulf countries are considered as a high priority in the region.[1] Technical and vocational education is only one way of responding to the problem of manpower needs. The introduction of productive work and work experience in secondary school is another line of action one may recommend. Most private sector activities seem to be in the hand of expatriates. Gulf region countries should therefore revise their public school programme in order to develop the spirit of entrepreneurship in future graduates, so that all diploma holders do not expect to find a job in the public administration.

Looking at statistics, one finds that Gulf region countries have made tremendous progress during the last thirty years or so in terms of the expansion of education. For example, Oman started with three schools in 1970. Today the country has over 400 primary schools and around 700 secondary schools. Nevertheless, as the representative of ABEGS stated, this expansion has not necessarily been accompanied by an improvement in quality. UNESCO or the IBE can help the educational authorities, perhaps through missions, to find out what quality improvement measures should be adopted in addition to what they have already undertaken. The competition between public (government) school and private school is a beneficial approach that deserves to be promoted.

On several occasions, the issue of the role of the school and of the local authorities was brought into the discussion. It is stated in the seminar's recommendations that local expertise should be used when implementing curriculum changes. Some speakers expressed the wish that the education system should become decentralized and the local authorities should play a greater role in decision-making about how to make the content more suitable to local needs.[2] Greater participation of local resources in financing education was also emphasized.

One has always to keep a balance between local needs and national priorities. National cohesion requires that all children receive the same education. However, at the same time, there is a possibility for the teachers and headmasters to adapt part of the programme content to the local conditions (in addition to optional courses, the adaptation of content, for example in geography, is quite feasible; out-of-school activities open large possibilities for local adaptation). If the decentralization approach is adopted, all actors at the local level should receive prior training in curriculum development.

X. OUTCOMES AND EXPECTED FOLLOW-UP

It has been decided that a report will be prepared in English by the IBE. It was agreed that the Omani Ministry of Education would do the same with the Arabic version, helped by the National Commission for UNESCO.

The participating institutions expressed their desire to consolidate their relationship with the IBE. The Director of the IBE discussed with Omani authorities the possibility of networking to be developed in the framework of the worldwide networking commitment on curriculum development that is already taking shape in other countries.

1. Future strategy

Future activity may include the following steps.

- The IBE may consider the request of one or more of the Gulf countries for closer co-operation on curriculum design.
- Professional support to develop the curriculum, syllabus, textbooks and other instructional material is likely to be extended.
- Training and retraining of teachers, including training in various aspects of classroom transaction, training in educational technology, training in monitoring and evaluation process. The IBE can provide professional support in developing a periodic teacher-training module.
- Capacity-building of resource institutions at various levels.
- Developing learning strategies for providing all learners with common skills.

2. Summary of the agreement between the IBE and the Omani authorities

- The IBE will help Oman to prepare a special video report on 'good educational practices' in that country to be presented at the forty-sixth session of the International Conference on Education.
- The IBE will be ready to organize a programme for a high-level study visit for Oman's educationists in Europe and elsewhere, giving them access to a diversity of experience on a special curriculum subject.
- Mrs Al Farsi, Oman's Undersecretary of Education, sought the IBE's co-operation to help organize a major international event on secondary education reform in Oman in 2002.
- The possibility of capacity-building on curriculum management by the IBE and the provision of technical assistance for that purpose were also discussed.
- The Omani authorities expressed their interest in animating a network for the Arab Gulf countries in cur-

riculum development along the lines of the framework of the international networking commitment of the IBE.

- The possibility of the IBE training a young Omani expert was also explored.

Notes

1. If these countries want to diversify their economies in order to become less dependant on oil income, they have to train a large number of qualified persons in various areas of the economy. As many Gulf Region countries have decided to replace expatriates by local people, the development of needed human resources becomes a top priority.
2. See the text of the speech by the representative of the UNESCO Office in Qatar (Part V). Elsewhere, Mr Ganguly also considered the movement toward a decentralized school-based system as one of the main current worldwide trends.

PART IV:

COUNTRY REPORTS

Management of curriculum revision and change: a synthesis of the national reports

Bahrain, Kuwait, Oman, Saudi Arabia and United Arab Emirates have submitted their national reports on the subject of curriculum revision and change. In the following pages, we present a synthesis of these reports that, with the exception of Oman's and the United Arab Emirates (in the latter case, a report of the Centre for Curriculum and Instructional Material Development, dated January 2001), were originally written in Arabic. This synthesis has deleted certain generalized and theoretical statements contained in the reports. The objective is to provide an accurate picture of what is being done in the area of curriculum revisions or changes in each of these countries.

I. MAJOR FEATURES OF EDUCATIONAL REFORM

Bahrain

The Ministry of Education in Bahrain has concentrated its comprehensive educational plan for the years 1989–94 on measures to be adopted to develop the educational process and enhance its efficiency. The Ministry is deeply committed to providing education for all and especial efforts will be made to ensure that this ideal is realized. Efforts are also underway to improve the quality of teaching in order to meet the learner's needs as well as those vital for the socio-economic development of the country.

The following guidelines endowed with their general framework has been adopted with a view to achieving educational objectives:

- viewing education as a gateway to integrated and comprehensive development in all fields. It is appreciated that the development of a society is dependent on its schools as it is education that moulds knowledge, beliefs and attitudes;
- viewing education as constituting a holistic, autonomous system which is also an integral part of the socio-economic system at the macro level;
- the education system in Bahrain is a part of a larger one, namely, the Arab education system;
- the Ministry of Education is responsible for both formal and non-formal education;
- in view of the fact that education is a shared responsibility, new initiatives such as the Educational Council for Planning and Co-ordination and Parent-Teacher Council need to be encouraged to ensure wider participation;
- viewing education as a co-operative enterprise and gradually delegating more functional powers to the schools to achieve greater decentralization;
- ensuring that the educational reforms constitute a comprehensive change rather than a partial one.

Current educational policy focuses mainly on three elements:

- education for all;
- improving the standard of teaching through major reforms in the content of education and teaching methods;
- linking education with the requirements of the job market.

During the last five years, Bahrain has placed especial emphasis on upgrading the academic curriculum in the light of the requirements of the twenty-first century. New systems of evaluation have been also been instituted in grade one since 1995–96. The objective is to encourage those who excel to continue their upward mobility and sustain improved performances.

Kuwait

The Ministry of Education has formulated its orientations, according to a previous report (see Kuwait Profile, revised version, (1995–2000), which encompass changes at all levels of education.

At the elementary and secondary levels, the new objectives include:

- broadening the scope of formal education by introducing information technology and practical skills;
- fostering individual development in students while stressing Islamic, Arab and humanitarian values along with a sense of civic duty;
- directing formal education towards continuing studies at institutions of higher education and applied knowledge to generate supplies to fulfil the demands of the labour market;
- maintaining the student/teacher ratio at optimum levels;
- ensuring balanced distribution of schools in the geographically distanced residential areas;
- strengthening relations with the Arab as well as the international educational institutions; and

- implementing schemes to adequately finance formal education. Raise the standards of performance and diversify sources of financing. Education development programmes would be assisted in sourcing financial as well as popular support.

The objectives for post-secondary education are:

- ensuring specialized human resource training and development. Young people should learn to respect societal values and traditions and acquire the qualities necessary to play the role of future leaders in society;
- keeping track of and contributing to scientific progress through research in economic, social and cultural development;
- playing a leading role in serving society and ensuring development, even while safeguarding the values and ethics of society;
- reinforcing the Arab/Islamic cultural heritage;
- enriching Arab civilization by encouraging research in the field of arts and sciences;
- ensuring that the global culture remains accessible to Kuwaiti learners in the areas of arts and sciences.

Oman

Educational reform encompasses several aspects in Oman: one of them is re-structuring the educational hierarchy that is divided into two levels:

1. Basic education for ten years. This is divided into two cycles—cycle one includes grades one to four and cycle two contains grades five to ten;
2. Two years of education (secondary education) in grades eleven and twelve.

The introduction of the basic education system necessitated implementing several fundamental changes to achieve various important objectives such as:

- to provide equal education opportunities for all children;
- to remedy the shortcomings of the elementary level and to provide students with the necessary knowledge and skills;
- to cope with the information explosion and new trends in education the time devoted to basic education may have to be extended;
- to extend the duration of the periods and lengthen the school day at the level of basic education;
- to ensure the eradication of functional illiteracy.

In relation to curriculum, reforms were implemented in several fields such as:

- developing organizational structure of the Ministry and designating a Directorate General for curriculum and training;
- revising the general objectives of curricula and educational levels;
- reforming the study plan;
- reforming the learning and teaching materials of the educational subjects;
- introduction of new curricula and courses;
- development of learning and teaching materials;
- development of new systems of assessment (evaluation);
- development of educational supervision;
- development of educational activities; and
- upgrading the quality of teachers.

Saudi Arabia

The country profile of Saudi Arabia reveals that in general terms, the education system in the country is presently focused on:

- raising the efficiency of professional and administrative performance in the educational institutions to enhance the standards and content of the educational process;
- ensuring that the education system meets the religious, economic and social goals;
- reducing the rate of illiteracy;
- integrating the activities of the institutions of higher education to fulfil the needs arising from socio-economic planning;
- broadening the base of higher education by diversifying its programmes to cope with the Kingdom's requirements to achieve overall development;
- ensuring that qualified citizens enjoy the opportunity to continue their education at the university level.

The Kingdom of Saudi Arabia places especial emphasis on religion so that Islamic values permeate all aspects of students' life, without compromising the capacities to acquire production-oriented skills, attitudes and the development of the country's economy.

The Saudi Arabian report underscores the importance of preparing appropriate textbooks for various fields of studies in schools: Islamic studies, Arabic language, science, social sciences, technical sciences and computer. Staff, teacher training and exchange of experience with other Gulf Region countries also receive considerable attention.

We learn through the country profile that the Ministry of Education tends to delegate all operational and administrative responsibilities to the regional and provincial bodies in charge of education. The Ministry concentrates on the strategic issues, besides planning and supervising developmental and promotional activities. Thus, the decision-making processes are speeded up and the procedures simplified.

United Arab Emirates

With regard to the United Arab Emirates, some of the focal themes underlying the reform process are:

- creation of a kindergarten development centre;
- development of curricula and preparation of textbooks for Islamic education, Arabic language, social studies, etc.;
- creation of school administration programme at the university;
- promotion of English-language learning at the primary level;

- teaching of computer science at the secondary school;
- providing private schools with select educational materials;
- launching various programmes to develop and improve the professional skills of the teachers;
- developing educational planning and improving the Ministry's efficiency;
- manpower planning and research.

The computer is being used not only as a teaching aid, but also for improving the school administration. From 1998 to 1999, a project has been launched to transform traditional school libraries into learning resource centres having at their disposal a specialized database of school subjects. Improvement in the use of science laboratories by the secondary-level students is another effort that is being undertaken. Language laboratories are also being equipped and promoted. Since 1992 special emphasis has been placed on the improvement of schoolbooks and related materials. The quality of the printing of books is enhanced to make them more attractive to students.

The Centre of Curriculum states that, from 1999, a programme for learning essential life skills has been introduced in grades 4 to 9 of primary and preparatory stages, which includes study skills, thinking skills, communication skills, social interaction skills, skills related to recreation and to proper use of spare time, and finally some elements of career education.

II. ORGANIZATIONAL STRUCTURE FOR CURRICULUM DEVELOPMENT

Bahrain

Curriculum is being considered in Bahrain as part of the education system in its entirety, and as being integral to its goals, content, learning, educational strategies, school activities, evaluation and feedback.

Curriculum has its inputs, processes and outputs that are influenced by the school environment and culture—values, attitudes, knowledge and the behavioural aspects that characterize teachers, administrators and pupils. It includes the educational experiences of the learner in and outside the school. It is perceived to reflect the society and its modernization. It is 'all what happens in the educational establishment ... to enable the learner's social adaptability'.

The Curriculum Department deals with the design and development of objectives and strategies. It undertakes research and project planning, reviews the progress and works towards continuously improving the efficiency of the education system. One of the primary functions of the Curriculum Department in the Ministry is to be alert to changes taking place around us, in order to update the programmes to keep them in tune with the changing realities. The Curriculum Department has to go through the following phases in the course of performing its major task:

- study and research (about actual development needs);
- examining alternative strategies and preparing development projects;
- consultations with specialists and partners, and submission of results to the Curriculum Committee and the Minister for approval;
- planning the implementation of the approved project(s);
- consultations with subject advisory committees, experts and teachers;
- once the new curriculum or new project is put into execution, and then generalized from experimental schools to all schools, the stage of follow-up and evaluation will start.

Kuwait

In Kuwait, there exists a Curriculum Department in the Ministry of Education. It received its inspiration first from an evaluation study of the Kuwaiti education system in 1978, following a general conference on school curricula held in 1972.

The adaptation of a new curriculum undergoes three stages:

1. Introductory phase: preparation of the suggestion, its presentation to a higher committee, identifying priorities and undertaking relevant research;
2. Execution phase: includes the experimental phase in the sample schools and subsequent evaluation;
3. Post evaluation of the applied programme, review of the curriculum and its adaptation. Several committees take part in adopting, executing and evaluating the new programme along with some departments of the ministry that are oriented toward preparing materials, techniques and teaching aids.

The creation of a curriculum requires the formation of special committees by the Ministry in relation to various subjects. Development committees participate in experimenting and improving the new curriculum in co-operation with the concerned groups. Their members may be both from the Ministry and from outside.

Oman

Recognizing the importance of curricula and training in achieving the goals of educational reform, the Directorate General of Curriculum and Training was established to assume responsibilities in the following areas:

- development of course materials and books for every subject at different educational levels;
- development of teachers' guides for all subjects;
- preparing a plan to implement the new curricula in schools;
- evaluation of the curricula implemented, by assessment data, inspectors' reports and teacher-training programmes;
- studying, in collaboration with the Department of Private Education, the curricula of private schools to determine their suitability;
- direct supervision of regional subject inspectors;

- identification of educational innovations, methodologies and computer programmes;
- identification of the types of training needed to support curricula, preparation and supervision of an annual training programme based on these needs;
- development of inspectorate to ensure that the inspectors are familiar with the new curricula;
- development of evaluation and assessment systems to measure the achievement of curriculum objectives;
- designing and producing educational aids to serve curricula;
- collecting and updating of reference materials to support curricula;
- maintaining a computer database for teachers to meet their particular training needs.

The Directorate General of Curriculum and Training comprises the following departments:

a. Book Production Department;
b. Education of Young Learners Department;
c. Department of Islamic Studies;
d. Arabic Language Department;
e. English Language Department;
f. Mathematics and Science Department;
g. Social Studies Department;
h. Life Skills Department;
i. Training Department;
j. Educational Aids Department;
k. Informational Technology Department.

The precise role of each department was defined according to the goals of the Directorate General of Curriculum and Training.

Saudi Arabia

Since 1960 the Department known as the Presidency General for Girls' Education was instituted in the Kingdom of Saudi Arabia. Its objective was to define the study programmes and curricula for girls' education in accordance with the teaching of Islam. The Presidency controls kindergartens, general education (elementary, intermediate and secondary), teacher training, college education, adult education and literacy, vocational education and training in relation to girls. The basic credo is that God has created the female of the species different from the male not only in their physical aspects but also from psychological and behavioural points of view. However, the curriculum development authorities try to formulate the programme in science, mathematics, etc., in a manner that is comparable to what is being taught in Germany, Japan, the United Kingdom and the United States of America.

The Curriculum Department in the Ministry has embarked on two types of development: 'particular development' or the improvement of a specific subject in the learning process; and 'comprehensive development' which embraces all aspects of curriculum, finalized recently by the highest authorities. Committees were then formed to plan strategies for developing and procedures for executing such essential endeavours. For such a comprehensive approach, the inspiration comes not only from the new educational and scientific advancement, the recent technological and informational progress, but also from traditional beliefs in Saudi Arabia. The application of the comprehensive curriculum development was foreseen for the year 1419 (= 1998 AD) to the year 1425 (= 2004).

Another aspect particular to the Kingdom is the formation of an educational development centre for a comprehensive reform. An educational development team comprising the general curriculum department, technical department, evaluation department and a number of advisors, researchers, headmasters and teachers who have been especially trained have also been established under a Deputy Minister.

United Arab Emirates

The national curriculum committee, with a Deputy Minister as Chairman, was established in 1975 in the United Arab Emirates. In 1980, the preparation of curriculum for basic education schools was underway. In 1989, a higher committee for the curriculum was formed in the Ministry to examine education in general, and textbooks and syllabi in particular. The higher committee was composed of the deputy minister, the director of the curriculum department, a number of professors from the faculty of education in the United Arab Emirates and specialists from the ministry. The development of national curriculum passed through a number of phases:

- Field study and research for testing the effectiveness of teaching methods with regard to various subjects;
- Documentation of different subjects taught in schools (Islamic studies, Arabic language, social studies and psychology);
- Transformation of curriculum documents into teaching materials and manuals (in 1994 a review committee for textbooks, manuals and related materials was created by the respective ministries);
- The stage of producing and printing books of a better quality;
- To evaluate the new programme, a high level committee was set up in 1998. Subsequently, a decree was issued to establish a co-ordination committee for general education curriculum. A national conference was organized in 1999 to discuss the development of curriculum in general education. In the year 2000, the Ministry assigned a number of experts and advisors to scrutinize the vocabulary used in basic general education subjects or texts and reject whatever was found to be unsuitable or redundant.

III. SOME BASIC PRINCIPLES OF CURRICULUM ADAPTATION AND CHANGE

The reports from all countries of the region show that the authorities are quite aware of the necessity of a substantial reform in the school curricula to meet the challenges of the twenty-first century. We read in the Oman report,

that motivated by a firm belief in the importance of education to social and economic development, the Sultanate is keen on rejuvenating the education system. They look forward to revising the educational structure so as to make it relevant to this century and fulfil their objectives of attaining overall development.

Kuwait is keenly aware that the curriculum should inspire behavioural change among the students and contribute to their wholesome development. One of the foremost characteristics of the curriculum change in Bahrain is *'to develop the learner physically, mentally, socially and spiritually through the acquisition of knowledge, skills, values and positive attitudes drawn from Islam, which can develop the capacity of contemplation, thinking, and being creative, making the learner an effective member of society'*.

With respect to the basic principles that guide curriculum adaptation and change, the country reports provide the following information.

Bahrain

In adapting the curriculum, Bahrain is primarily guided by four basic tenets that relate knowledge to the service of humanity:

1. *Philosophical basis*—the curriculum should be guided by Islamic perceptions of man and religious views on education;
2. *Social basis*—being an Arab and Muslim country, Bahrain seeks to inculcate the noble principles of Islam, and Arab-Islamic values in the minds of the younger generation, to enrich them with the past tradition. They also seek to enlighten the students about the world around them and the unfolding future, so as to equip them with the knowledge essential to facilitate efficient communication with the world;
3. *Psychological basis*—sensitivity towards the learner's need for character building and a holistic development of personality;
4. *Educational or pedagogical basis*—inspired by the Islamic philosophy of education against the backdrop of recent research and discoveries in human sciences.

Bahrain's report also presents the nineteen points mentioned below as constituting the basic principles underlying curriculum development:

- to consider the development of education as a holistic process and the curriculum as being integral to that process;
- to direct the development of education with the vision necessary to cope with future challenges;
- to rely upon an explicit philosophy of education with adequate attention being paid to the characteristics of learners, their stage of growth and attendant problems by adopting a scientific approach;
- to facilitate the involvement of schools, their headmaster and teachers in the efforts aimed at renewal and change;
- to improve educational performances in schools through the introduction of new methods and approaches more suitable to the environment in Bahrain;
- to enhance the role of learners in the education process and ensure continuous training and upgrading for the educational personnel;
- to better organize the schools, encourage an innovative administration and provide for a healthy relationship amongst the staff as well as between the staff and the students;
- to make the school more responsive to the requirements of the new curriculum and the challenges of environment;
- to create a flexible mechanism for effective participation of all stakeholders in the educational process, and ensure its continuity by regular monitoring and evaluation;
- the curriculum should assimilate contemporary science, ensure the students' understanding of modern technology, develop capacities related to thinking, creativity, problem-solving and fostering social adaptability;
- to construct the curriculum on a flexible basis to allow for the introduction of new inputs;
- to facilitate self-learning;
- to create an comprehensive information system encompassing aspects such as the school's strategy, activities, methods and related statistics;
- to prepare schools to accept the risks involved in implementing the new curriculum, initiate appropriate action to ensure proper adaptation, and inspire them to face any setbacks with a scientific spirit;
- to develop an evaluation system to help continually improve the teaching and learning processes;
- to ensure the participation of the public sector and other concerned establishments and co-ordinate their activities with the school in order to attain the objectives of the curriculum;
- to emphasize the role of the family in the process of teaching/learning and enlisting the participation of parents in realizing the functions and the objectives of school. It is necessary to make the family understand that *the new axis in education is the learner himself* and it is in the learner that the capacity of thinking and innovating needs to be developed;
- to undertake research and field studies in order to evaluate the new programme before its generalized adoption;
- to sensitize media as to its role in informing the public about the new curriculum and its objectives, and convince them about the need for adaptation and change.

Kuwait

The different phases involved in the development of a new curriculum in Kuwait have already been detailed above. Only a few guiding principles have been mentioned in the country report and they are as follows:

- Implementing the new curriculum in a few experimental schools before its large-scale adoption;

- Improving and adapting the curriculum in keeping with the results of ongoing evaluation;
- The introduction of a new curriculum should be preceded by surveys that identify the needs and policies that are formulated to respond to these needs.

The national report of Kuwait remains silent on most of the basic principles governing the curriculum change. The same is the case with respect to the report on Saudi Arabia.

Oman

In the case of Oman the curriculum reformers have projected the following activities:

- revision of general objectives of curricula and educational levels;
- reform study plans;
- reform the learning and teaching materials used in the various educational disciplines;
- introduction of new subjects and courses, including those aimed at developing life skills, familiarizing students with the new communication and information technologies, helping them gain fluency in an international language (English), or to understand the basis of economy and business. Other steps or actions include: production of books; development of other teaching/learning materials; development and application of tools for assessment and evaluation; development of educational supervision; promotion of extracurricular activities to support the curriculum.

Substantial significance is attached to the decision involving the overall objectives of the curriculum as well as the specific objectives of each subject in the new curriculum. The following is the *list of the objectives* set in the Sultanate of Oman:

- develop the physical, intellectual, social, spiritual and emotional personality of students in a well-adjusted manner at the basic educational level;
- augment Islamic faith in students and encourage Islamic behaviour;
- develop students' competence in learning and using Arabic language;
- stimulate Omani cultural identity in students;
- increase awareness of social laws and regulations and respect for public and private ownership;
- develop students' communicative skills in a foreign language (English);
- develop students' willingness to engage in ongoing independent learning;
- develop their capacity in the use of scientific thinking and research abilities;
- develop students' basic skills in science and modern technology;
- develop students' creative abilities;
- develop appropriate work ethics in students;
- provide students with basic life skills and improve vocational preparedness;
- inculcate in students an awareness of environmental issues;
- sensitize the students to contemporary problems facing the world and ways of coping with them;
- encourage students to acquire the saving habit and moderate consumerist tendencies;
- awareness of the importance of time management;
- awareness of truth and beauty;
- develop students' ability to deal with global issues; and
- enhance students' awareness of the need for peace, tolerance and living together in harmony.

These objectives inspire and guide the preparation of the programme for each level, both basic as well as general education.

United Arab Emirates

In the case of the United Arab Emirates, the Centre for Curriculum refers to the following twelve general objectives, which are found in the United Arab Emirates' educational policy document:

1. To build in students an integrated personality involving faith, behaviour, skills and performance;
2. To foster a sense of belonging to the United Arab Emirates as a country, the Arab world and Islamic world;
3. To continue and further promote the use of the Arabic language;
4. To encourage contact with people of other cultures;
5. To meet the needs of society by preparing the required numbers of appropriately trained people;
6. To expand compulsory education to the end of the secondary stage;
7. To promote equality of educational opportunity;
8. To offer educational opportunities suitable to the interests and needs of learners;
9. To upgrade the quality and effectiveness of education to help achieve society's goals and to make instructional programmes relevant to society's current and future needs;
10. To provide education for creativity and innovation;
11. To base education on an advanced technological foundation;
12. To achieve a status where society becomes both teacher and learner with full co-ordination among all institutions, to assure opportunities for life-long learning.

As the national report of United Arab Emirates is not always explicit about the principles guiding the curriculum adaptation in that country, we may refer to some indications in the country's profile, which states that the curricula and syllabi of general education are currently being developed, especially the curricula of the liberal arts. This also involves enhancing the role of technology, computer usage, extra-curricular activities, as well as raising the standard of the English language. Also being prepared are guides to the liberal arts, English language, computers, as well as books on the three stages of education.

The Ministry aims to strengthen the relationship between education, the community and the environment through a number of subsidiary studies that support the curriculum. These studies cover technology, health edu-

cation, environmental education and security education. Future prospects for curricula aim at changing the quality of education by concentrating on skills and values, as well as inference and discovery methods, and by bridging the gap between subject matter, life and abstract knowledge—instead of isolated information, repetition and traditional education.

The United Arab Emirates is also aware of the necessity to improve the efficiency of the educational process including that of the teachers.

In the case of technical education, effort is being made to ensure an organic correlation with work opportunities in the labour market and their requirements.

The report of the Centre for Curriculum provides us with the following indications about how educational policy and curriculum planning and implementation have to respond to the new challenges facing the country. It says:

1. Education should be free from rigid patterns and conventional systems, and should be based on promoting understanding, analysis, evaluation and other thinking skills;
2. Education should contribute more effectively to fostering national loyalty and competent citizenship;
3. Education should focus on preparing students for a productive life;
4. Education should encourage the broadest possible framework of knowledge, skills, values and attitudes. This framework should also combine knowledge of the past, awareness of the present and anticipation of and preparation for the future;
5. Greater attention should be given to the teaching of science, mathematics, and languages;
6. Innovative techniques must be developed to teach students, not just managers and administrators, the methods of effective decision-making.

IV. SPECIFIC MEASURES TO IMPROVE THE CURRICULUM

The general principles of adaptation and reform applied in various Gulf countries are best illustrated by the specific measures each country has undertaken to improve their school programmes.

Bahrain

The last couple of decades have witnessed several measures being taken to help decentralize the education system. The country profile states that since the early 1980s, the Ministry of Education has promoted decentralization alongside a consultative democratic policy. They are creating channels of expression and interaction amongst educational officials and involving all educational personnel in developmental committees in order to take appropriate decisions that will help raise educational efficiency. Several advisory committees have also been established. Membership is not confined to the Ministry's officials, and assistance can be sought from experienced personnel from other Ministries and universities in Bahrain. Students are involved in the decision-making process by participating in a number of these committees.

Institutions of higher education generally enjoy considerable autonomy in administrative and technical matters. However, the Ministry of Education is the superior official authority responsible for the University of Bahrain and the Arabian Gulf University. The Minister of Education is the chairman of their Board of Trustees.

In 1990–91, the Ministry adopted the system of each school becoming an autonomous educational unit, according to a ministerial decision of 24 April 1990. The document attached to the ministerial decision has defined the basic proceedings, the new organizational chart of school administration, educational and administrative tasks, as well as the evaluation process.

This new organizational structure of the school as an autonomous educational unit consists of the following: the school principal, the school council, the assistant principal, the teacher, the social worker, the learning resource centre specialist and the secretary in charge of administration, accounting and financial matters. Even if curriculum development is a centralized issue, the school council is entitled to discuss the suggestions and projects presented by the school staff regarding curriculum development and teaching methods. The results of these consultations will be submitted to the Ministry of Education.

An interesting procedure followed in Bahrain in relation to the adaptation of a curriculum reform is to consult not only with specialists, teams of senior teachers and university professors, but also with people who have some stake in the development of education, besides the representatives of the private sector (see country report). A seminar is held to discuss reforms by those concerned; the outcome will be presented to a higher committee for academic curriculum and to the education committee for approval or improvement. The proposal will then be forwarded to the higher curriculum committee for adaptation or rejection prior to the ministry's final decision.

Kuwait

Several measures such as the teaching of swimming skills to children and the initiation of computer literacy have recently been introduced at the kindergarten level in Kuwait. The report says that these measures have been expanded to cover all educational institutions since the year 2000–2001.

Kuwait is co-operating with UNESCO in the area of 'associated schools'. The aim is to introduce human rights, peace, tolerance and related subjects in school programmes. Twenty intermediate and ten secondary schools are considered as UNESCO associated establishments.

Oman

The national report of Oman indicates that there has been an effort to do away with the 'two shifts' systems in the school day. The use of the school premises enables

extension of the school day to eight periods instead of six. This amounts to an increase by about 33% of the work hours at school. The duration of the periods were increased to forty minutes from thirty-five minutes. The academic year was extended to 180 days from 160 days to allow more time for important educational extra-curricular activities. This has encouraged the inclusion of new subjects, not taught hitherto, such as life skills, computer science, information technology and the introduction of English-language teaching from grade one, rather than grade four.

New learning and teaching techniques were introduced to overcome the limitations of the older ones. The Ministry was keen to introduce modern equipment and tools in the schools. Learning resource centres were established and equipped with modern computers, reference books and audio-visual aids. These centres provide students with opportunities to operate the different equipment and subsequently acquire manual skills and be prepared to exploit the labour market. Cycle two of basic education schools shall be equipped with science and computer laboratories.

The introduction of life skills as a subject in the curriculum can be considered as yet another innovative measure. Life skills include skills to deal with family affairs, management skills, commercial skills, communication skills, etc.

In Oman especial care is devoted to the writing and the preparation of course books and teachers' guides as well as to their printing and publication.

Saudi Arabia

A noteworthy initiative emerging from the Kingdom of Saudi Arabia has been the idea of instituting 'pioneer schools' involving both elementary and intermediate levels, on a trial basis. If these 'tests' are seen to be successful, then these schools could serve as models for future education establishments. This project has been underway since 1420 (= 1999AD) and lasts for a period of five years. The project will help to train the necessary staff, to supply the required equipment, to prepare evaluation tools, and also to carry out an awareness campaign among the population.

Saudi Arabia is also active in reviewing school textbooks, in promoting modern laboratories and libraries, in introducing computers, and in considerably improving the printing process.

Mention needs also be made of extracurricular and cultural activities for students, and of retraining programmes for teachers, supervisors, administrators and other staff that are being regularized.

United Arab Emirates

A notable success has been its initiative to introduce the English language from the first year of elementary school. After several rounds of trials in experimental schools underway since 1987, the generalization was effected in 1992–93. The curriculum has been subjected to review and scrutiny in recent years and recommendations were made for the improvement in the following fields: Islamic studies, Arabic language, social studies and philosophy.

On the basis of the proposed changes, manuals and reading materials have been under preparation since the year 1994. The University of the United Arab Emirates had a considerable role in that process along with the Ministry of Education. The latter created a technical committee in 1996 to supervise the preparation of textbooks and other learning/teaching materials. The committee had a Deputy Minister as its chairman.

Another important project in the United Arab Emirates was the transformation of school libraries to learning resource centres equipped with computers and audio-visual facilities. Language laboratories, both for Arabic and English, have also been established. The report refers to around sixty-nine existing language laboratories.

Teachers have been trained to become familiar with the new educational and information techniques and devices. The project was started in 1998–99 and is being implemented today in around forty schools.

However, the Centre for Curriculum refers to some constraints which make it difficult to improve sufficiently the quality of instruction. The inadequate availability of instructional resources (textbooks, teachers' guides, maps, wall charts, audio-visual materials, computer-based materials) is considered as the main bottleneck.

V. OBSTACLES TO CURRICULUM REFORM

In the majority of the national reports, references are also made in more or less details to the obstacles in the path of curriculum reforms. These obstacles are at times shared problems facing the education system in a large number of countries. Without indulging in any value judgements, issues raised in the national reports, with especial emphasis on problems curriculum reform is facing in the Gulf Region, are reproduced here.

Bahrain experiences a number of obstacles in the path of implementing a new curriculum. Despite the great role the school in general and the teachers in particular have in the implementation of a new curriculum, they face some difficulty in discharging their responsibilities. The primary reasons are:

- teachers may be insensitive to the development process and once given the responsibility may even resist change fearing that it would only add to their burdens;
- lack of sufficient time to retrain teachers in the new curriculum and new reading materials may be another obstacle; teachers are sometimes very busy during the day and cannot attend on a regular basis the training workshops organized for them;
- there are few educational advisors to help and advise the teachers in understanding the requirements of the new curriculum;
- the teachers are not obliged to apply all related teaching materials and may lack of the necessary motiva-

tion to read and digest documents which indicate how the new programme should be applied.

The national report of the United Arab Emirates does not speak about the problems and difficulties faced in the application of a curriculum change. On the contrary, Kuwait has presented a long list of problems facing curriculum specialists in designing and reviewing the curricula. Directors of schools, teachers and advisors are those who apply the new curriculum. It cannot be said with certainty that they always understand the objectives and the intention of curriculum planners. The process of application may well be full of surprises and produce unexpected results. It would be productive if review and evaluation were to make a parallel progress alongside the execution. This necessitates:

- the continuity of pre- and in-service training of teachers;
- the continuity of information collection to recognize defects;
- regular and frequent follow-up of aims and objectives;
- continuous evaluation of all elements in the educational process.

In light of the above, we find the unity of the three elements (design, execution, review) as one major factor that requires the co-operation of all concerned. It is not easy to place limitations or draw lines of separation between the technical and the administrative decisions regarding the educational process. The gulf between theory and practice with respect to education results from a misunderstanding involving the unity and mutuality between the technical and administrative dimensions.

Sometimes the lack of understanding of the interconnectedness between plans and their implementation leads one to concentrate on the short term to the detriment of long term. Policy-makers are sometimes in a great hurry to revolutionize education while they are still in office. This may lead to the misapplication of the reform due to lack of adequate time. Some other problems mentioned in the Kuwaiti report are:

- lack of strong co-operation between administrators and curriculum designers;
- lack of co-ordination between the curriculum development committee and the education departments of the ministry;
- lack of harmony among the committee members and improper working styles of these committees;
- lack of interest in familiarizing future teachers during their pre-service training with modern techniques;
- dependence on external sources for maintenance of equipment and machines;
- inadequate awareness on the part of teacher trainers with regard to educational priorities and obligations;
- too much emphasis of teachers on theory rather than on reality and on practice;
- lack of participation of the majority of teachers in decision-making about the educational development process;
- too much work assigned to the teachers prevents them from reading or research;
- problems faced by teachers due to the large number of pupils in each class, which, in addition to the administrative burdens, affects their performance.
- concentration of the syllabus on the cognitive side and negligence of skills (behavioural skills). The present examination and evaluation system is based only on measuring success in terms of storage and retrieval of knowledge;
- the application of a new and modernized curriculum requires classrooms, labs, playgrounds, learning materials, good equipment and a suitable teaching environment. Any limitations placed on these requirements would be unhelpful.

Some of the obstacles reported by Oman as being in the path of the developmental processes are:

- despite efforts made to train teachers in modern methodologies, some of the them unconsciously use the old methodology and 'spoon feeding' techniques without involving the learner in the learning process and ignore educational aids;
- the process of writing textbooks is completed within five to six months. This increases the pressure of work and results in inefficiency. Continuous evaluation of the materials that will be reprinted after two years and after obtaining feedback from the field help resolve this problem;
- some teachers are not conversant with computer use and thus cannot benefit from the learning resource centre in implementing some of the course tasks. Moreover, they cannot encourage their students in the use of computers; and
- some of the parents misunderstand the philosophy of the basic education system in this country. This problem can be solved by activating the role of parents' councils through seminars to be attended by Ministry officials and parents to familiarize them with the philosophy and objectives of the basic education system. Mass media can also spread awareness among individuals about education, its goals and values.

PART V:

REPORTS FROM REGIONAL INSTITUTIONS

The role of ABEGS in the development and renovation of school textbooks and curricula

Humaidan A. Al-Humaidan

I. BACKGROUND

About a quarter of a century ago, educational leaders of the Arab Gulf States realized the importance of co-ordinating and integrating their efforts in order to develop educational methodologies, pedagogy and school curricula. Owing to the shared characteristics of these countries, educationists in the Arab Gulf States recognized that such a development could only be realized through strengthening the existing ties and the enhancing co-operation and co-ordination among these countries.

The First General Conference of the Ministers of Education in the Arab States of the Gulf (Riyadh, 1975) came to conclude that these facts and aspirations should be embodied in a specialized organ that aims to encourage, strengthen and develop co-ordination and co-operation among the six member states (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates) in the fields of culture, education, science, information and documentation.

The Ministers of Education in the Arab States of the Gulf therefore adopted a resolution establishing the Arab Bureau of Education for the Gulf States (ABEGS) and indicating its duties and major objectives.

In accordance with its capacity as the highest authority of the Bureau, the General Conference resolved that ABEGS should introduce, update and promote educational reforms and modern techniques consistent with the spirit of Islam and the traditional values of the region. These duties could only be realized through the implementation of its programmes and activities, the promotion of educational development and the unification of school curricula and textbooks among the six member states.

The Bureau, through its main affiliate organ, the Gulf Arab States Educational Research Center (GASERC) in Kuwait, has exerted a lot of efforts in the field of the development and unification of school curricula and textbooks. Thanks to the center, special attention was paid and major breakthroughs were achieved in the field of curriculum development and unification, especially in the domains of mathematics and sciences textbooks and school curricula. The Bureau and its sub-organ have managed to attract and benefit from a lot of regional as well as international sources of experience and expertise.

Since its establishment, ABEGS, through its programmes and activities and those of GASERC, has launched several initiatives towards the development and unification of school curricula and textbooks. Undertaking and publishing a study of 'educational aims and the general bases of school curricula' (in 1403 H. = 1982) was one of the most prominent initiatives in this domain. In 1404 H., ABEGS organized and held the first International Conference on Mathematics in the Gulf Region. During the following years, the Bureau carried out several studies on mathematics and science in the various stages of education in the Gulf Region.

Throughout its endeavor, ABEGS was open-minded and receptive to various sources of experience and expertise. Thus, it translated the report of the National Commission on Excellence in Education of the United States—*A nation at risk*. It also translated an important study on education in West Germany. Later on, the Bureau carried out a translation of *Educational renovation in the United States*. ABEGS undertook the translation of several studies on natural science education worldwide.

Moreover, the General Conference of ABEGS established a special commission to follow up and assess the efforts and results achieved in the field of curriculum development and unification. The special commission comprised experts and specialists from within ABEGS and GASERC, and from outside sources as well.

The efforts exerted in the process of curriculum development and unification progressed along two parallel streams. The major educational aims, the general basis of school curricula and the unified objectives of educational phases, school subjects and curricula were defined. The Bureau also launched a number of initiatives to reform, develop and unify the current school curricula and textbooks. To pave the way for these essential educational reforms and major changes, it carried out several studies to evaluate and assess the status quo of education in the region. Within this framework, the Bureau issued new unified textbooks, carried out case studies, field evaluation research and made the necessary modifications and changes based on these evaluative measures.

II. THE DEVELOPMENT STRATEGY

ABEGS set up a clearly defined strategy for managing the process of development and unification of school curricula and textbooks. One of the major aspects of this strategy was its dependence upon the contribution and participation of specialists from the member states in composing, reviewing, evaluating the newly developed, unified school curricula and textbooks. The Bureau also decided that these unified textbooks should have trial periods, during which they should be reviewed and evaluated.

In its documents on the development of unified school curricula in mathematics and the development of unified school curricula in science, GASERC pointed out several important issues and challenges. Among the major issues relating to the currently applied school curricula, there is an obvious gab between the general aims of mathematic education and the specified grade objectives. This might be due to the absence of a coherent and comprehensive structure outlining major aims and objectives. With respect to the development of unified school curricula in science, GASERC highlighted the need for exerting our utmost efforts in order for the member states to cope with the changes and challenges of the information technology revolution.

The document also underscored the importance of preserving the cultural and spiritual identity of the region in the face of the current threats of globalization and the dangers posed by new means of communication, e.g. the Internet and web-based means of communication.

Thus, the document laid down the basic general aims, objectives and terms of reference of the development process of the unified school curricula in science for the Gulf States. GASERC also launched a unique initiative in the development and unification of Arabic curricula and textbooks for basic education in the member states. ABEGS took great pains to review and evaluate the process and outcomes of curriculum development and unification, especially in the domains of mathematics and science textbooks and school curricula.

Indeed, the Bureau brought about curriculum development through its activities and major breakthroughs in the field of curriculum development and unification, as a specialized organization conducting programmes and activities geared to the needs of schools in its member states, in the field of education in general, and school curriculum, in particular.

III. THE MAJOR FACTORS INFLUENCING CURRICULUM DEVELOPMENT

It is almost impossible to conduct curriculum development and unification without taking into account the following factors.

1. The political factor

Today's world witnesses an ardent race in which all runners try to achieve higher standards of planning and projecting into the future to cope with the ebbs and flows of a rapidly changing world. The scope and pace of change in today's world are such that any society that does not join the race now may never be able to meet the challenges of the future. Therefore, we should take part in the current process of transformation, which involves all aspects of our lives.

ABEGS carries out its programmes and activities, including the development and unification of school curricula and textbooks, taking into account the various regional as well as international political factors. Great breakthroughs were achieved in the field of curriculum development and unification, owing to the wise directives and instructions of the political as well as educational leadership of the Gulf Co-operation Council (GCC) countries.

2. The economic factor

Education is the main vehicle of human as well as economic development. The economic factors play a major role in the ABEGS programmes and activities, including the development and unification of school curricula and textbooks. Specifically speaking, the economic changes taking place in the GCC countries made it necessary for the secondary school graduates to join the labour force and participate in the economy, especially with the growing trend towards nationalizing the labour force and providing jobs for the entire population at a time which witnessed unemployment rising to unprecedented heights.

3. The social and cultural factor

The social and cultural factor creates the main framework in which the newly developed curricula should be received, applied and evaluated. Accordingly, any successful plan for the development and unification of school curricula and textbooks should take into account the social and cultural factors—namely the needs, expectations and major aspirations of education stakeholders.

4. The educational factor

There was one key principle underlining the efforts made by the Bureau in its major initiatives to undertake reforms, develop and unify the current school curricula and textbooks: although the Arab Gulf States achieved great success and major breakthroughs in the field of education, from a quantitative perspective, providing free education to all their citizens, they have hardly achieved the same kind of success from a qualitative point of view.

Due to the increasing challenges facing these countries during the last two decades, the GCC countries have strived hard to implement the most urgently needed economic, social and educational changes.

Since as education system should aim to create better understanding of the demands and potential of our world and to form new patterns of thought and behaviour

which are not contrary to the spirit of Islam and our social traditions, ABEGS saw the need for a quality education so as to cope with the daunting challenges facing these countries.

Thus, we embarked on a major project for previewing the future of education in the Arab States of the Gulf. The project resulted in a pioneering and profound document focusing on the major aspects and conditions required for achieving the goals of 'education for the future'. Education for the future must be part of a long-term strategy, presupposing continuity in the choices made and in the implementation of educational reforms. Although priorities will naturally vary from one country to another, educational preview should be carried out according to the basic conditions that are common to all.

In order to ensure the correct application of the new advanced curriculum, their Royal Highnesses, the leaders of the GCC countries, set up a committee comprising the education under-secretaries responsible for school curricula in their respective countries. It was their duty to supervise the developmental programmes, set up the frameworks and guidelines, and ensure that the result is appreciable and practical. After the special committee adopts the new curricula, the Ministries of Education in the GCC countries would implement the new curricula in their schools, taking into consideration the individual needs of each state and its ability to carry out the necessary changes.

The wise leadership of the GCC countries underscored how important it is for the product of the development programme to be defined within the framework of the overall strategies of these nations. The new content of education should reflect the knowledge and skills necessary for individual personal growth, young people's capabilities and their ability to join the labour force and meet the new challenges, especially the influence of the globalized economy and the rapid advances in science and technology.

IV. CONCLUSION

To sum up, educational reform is not the only precondition for bringing about an inclusive, comprehensive revival of our society. There are other important issues at stake: economic, political and social. Yet, education for the future is the spinning wheel that transforms all fibres into a long yarn and leads us to cross the cultural gap between our developing societies and the developed ones. Hence, ABEGS saw the need for a quality education to cope with the enormous challenges facing these countries.

In conclusion, I would like to say that although the Bureau cannot be an alternative to the Ministries of Education in the Arab Gulf States, it has significantly influenced curriculum development through its activities and major breakthroughs in the field of curriculum development and unification. As a specialized organization, conducting programmes and activities geared to the needs of its member states in the field of education in general, and school curriculum, in particular, it has a critical role to play in the new millennium.

The role of UNESCO in the promotion and implementation of contemporary trends in education

Abdalla Bubtana

Globally, the development of education systems had passed, during the last century, through four distinct periods when efforts were concentrated on their reform and renovation.

The collapse of the economic systems during the 1930s resulted in a need to review the social, political and economic aspects of societies. A large number of nations gained independence after the Second World War and they began to lay especial emphasis on quantitative expansion of systems with a view to satisfying rising social expectations. This had a negative effect on the qualitative aspects of developmental activities. Even today, a number of developing countries are trying to overcome this imbalance.

During the 1980s, concentration was placed on restructuring systems and on the mobilization of financial resources through reforms. The 1990s witnessed the Jomteen Conference, during which basic education for all and the provision of additional resources represented a universal commitment to education.

During these periods, especially in the light of drastic quantitative expansions, three main issues relevant to reform of education systems were highlighted:

1. the objectives of education and suitable pedagogies;
2. access to education and equality (democratization);
3. quality, relevance and financing of education.

During the recent decades, the reform and renovation processes targeted five areas of education:

Decentralization: this was intended to provide flexibility and incorporate relevance to different socio-economic contexts.

The nature of school: non-traditional forms of educational institutions were adopted, i.e. comprehensive schools, distance learning, etc.

Renovation of the content of education: to renovate curricula, strengthen science and technology, incorporate new contents, etc.

Evaluation and measurement: reform of the testing and examination systems, institutional evaluation, quality control, etc.

Teacher education and training: this aspect required considerable attention brought about by the in-service training of huge numbers of unqualified teachers employed during the post-colonial period.

Two developments that have taken place recently will have a major impact on the future of education systems worldwide.

In 1996, UNESCO issued the report of the International Commission on Education for the Twenty-first Century, entitled *Learning: the treasure within*. In addition to confirming the four pillars of education, i.e. learning to know, learning to do, learning to live together and learning to be, the report contained numerous ideas and principles for the reform and renovation of all levels of education.

In April 2000, the Dakar Conference was convened under the theme of education for all. The conference renewed the commitment to this principle and called upon all partners to provide the necessary resources to achieve this objective. New means and modalities were also proposed.

UNESCO, in addition to its active role in initiating innovations and reform through its different modalities and mechanisms, conferences, meetings, advisory and consultancy services, etc., has established a number of innovative networks to stimulate and implement reform projects in all regions of the world. The Educational Innovation Programme for Development in the Arab States (EIPDAS) was the network created for the Arab Region.

In addition to the provision of financial and human resources for these networks, UNESCO was able to mobilize funding from extra-budgetary sources to implement innovative experiences in a number of countries around the world.

34

PART VI:

CONTRIBUTIONS AND RECOMMENDATIONS OF THE THREE DISCUSSION GROUPS

The three discussion groups

GROUP I: CURRICULAR PLANNING

I. PROBLEMS

1. Shortage of capable manpower to undertake curriculum planning.
2. Inadequate information and databases essential to facilitate decision-making regarding the curriculum.
3. Specialists who are neither able to implement the curriculum nor comprehend the philosophy underlying curriculum planning.
4. Resistance from teachers and society.

II. SOLUTIONS

1. Inviting overseas experts to train the national planners.
2. Seeking assistance from local universities.
3. Creating a database under the supervision of the UNESCO Regional Office in the Gulf Region.
4. Undertaking surveys on different aspects of the curriculum.
5. Creating associate programmes that facilitate the implementation of curriculum.
6. Utilizing studies carried out by UNESCO regarding curriculum.
7. Clarifying the philosophy of change in curriculum and concentrating on its various aspects.

III. NEEDS

1. Preparing and providing proper budgets.
2. Training national manpower to enhance their capabilities in dealing with the technical aspects of curriculum development.
3. Approaching international and regional organizations to obtain technical assistance.
4. Co-operating with establishments working on educational programmes.
5. Facilitating co-operation with the media to disseminate with clarity the aims and objectives of development.

IV FACILITATOR'S REPORT ON THE WORKING GROUP

An Arabic speaking chairperson and rapporteur were selected at the beginning of the working group's session.

1. Problems of curriculum planners

The participants were concerned about the shortage of curriculum planning specialists in Gulf countries. It was observed that in many cases the existing curriculum specialists were not familiar with the techniques of planning and found it difficult to develop a curriculum in a systematic manner. Concern was also expressed about the fact that appropriate information regarding social and educational needs—essential for curriculum planning—was neither collected nor available in many countries. This meant that a basic requirement was lacking, and resources and skills had to be diverted to gather the necessary information. Resistance to changing the existing curricula from individuals and communities, especially hailing from the remote areas of certain countries, dampened the enthusiasm of some participants.

2. Solutions proposed

The participants came up with solutions that fell into three broad categories: seeking international help; seeking assistance from within the countries; and doing the required work oneself.

With regard to seeking external assistance, proposals were made to request experts from abroad to help train the national planners. It was also suggested that curriculum-related studies carried out by the IBE and UNESCO should be utilized to help reduce the information gap. It was suggested that a regional database be set up and run by the UNESCO regional office to serve as a clearing-house for information concerning experts and trainers within the Gulf Region. The services of these experts could be utilized, as they would probably be willing and free to travel on request to the countries within the region.

The utilization of existing national resources was discussed and it was decided that the universities of respective countries could be engaged in the systematic collection of the information required by curriculum planners. Some participants suggested that they themselves, in their own countries, could initiate surveys to gather the requisite information regarding various aspects of the curriculum. It was felt that a scheme outlining the methodology of curriculum change in simple steps would facilitate the task of implementation in several countries.

3. Felt needs

The participants identified a variety of needs with respect to curriculum development. Some emphasized the particular need to allocate an appropriate budget for the project. It was felt that there was a need for technical assistance from regional organizations of the Gulf Region, as well as from several international organizations with wider exposure and expertise. Others believed that a training programme should be conceived and organized to help develop the national capacities for curriculum development.

It was noted that there was a need for curriculum development planners to work with educational establishments that are in the process of developing their own educational programmes. It was also suggested that there was a need for special contacts with the media so that a dialogue could be established with the public regarding the aims of curricular changes.

4. Comments

Participants were keen to describe the conditions prevalent in their own countries, as well as the felt needs and views in the area of curriculum-related planning. However, the exercise was hampered by the extreme brevity of the time allocated, as well as by the seating arrangement imposed by the fixed chairs. The participants were very enthusiastic, and it is probably correct to say that all of them were frustrated by the limited time allotted. Several participants may have found it difficult to avoid the impression that this brief session was just a token interactive session involving a small group.

5. Recommendations

In future workshops, a similar session with participants from a number of countries in a region may have some usefulness, but its value will be seriously limited if the following recommendations were to be ignored.

1. Loosely structured small-group session(s) should have preceded this type of session to encourage the informal sharing of views and experiences, and to improve group dynamics.
2. The present type of session should have been accompanied by a series of other participatory sessions involving smaller groups, as well as by other plenary participatory sessions—all linked to each other in an overall framework for generating facts, opinions and suggestions.
3. Most of such sessions should be of a longer duration. Some of them would benefit from participants' written suggestions during the session, and they could then be integrated into a report together with the rapporteur's discussion notes.
4. Future sessions should permit actual creative or constructive work to be done by the participants together, preferably using in some way real or simulated data from the home country or the region.

GROUP II: MANAGEMENT OF CURRICULUM CHANGE

I. PROBLEMS

1. University professors who participate in curriculum planning do not have the requisite field experience.
2. Budgets for developing curriculum are either unallocated or inadequate.
3. Curriculum development objectives are ill-defined leading to wastage of time and money.
4. Therefore, a curriculum needs to be reviewed from time to time.
5. The manpower needed for curriculum development is inadequate.
6. There is insufficient time for in-service training of teachers and inadequate motivation on their part to attend training courses.
7. Co-ordination between committees involved in curriculum developments and those in charge at the Ministry of Education is not satisfactory.
8. New syllabuses are imposed on teachers who are ill-prepared to handle them.
9. Teacher-training programmes at universities focus on theoretical aspects to the exclusion of practical applications.
10. There is resistance to curriculum development from society and other quarters.
11. Media programmes to spread awareness regarding the objectives of curriculum development are needed.
12. Allowances should be made for raising awareness among teachers before contemplating curriculum changes.
13. A system of developmental evaluation should be introduced during the implementation phase to help overcome obstacles and receive feedback.

II. NEEDS

1. Provision of budget.
2. More specialists in curriculum and training departments.
3. Experts and technicians in curriculum design and educational media.

III. EVALUATION OF THE WORK OF GROUP II

The presentation on various issues of management of curriculum change was followed by intensive discussions. The delegates presented their views on the prevalent local realities and problems of curriculum development and implementation in their respective countries. Some of the problems highlighted were: a shortage of qualified teachers; lack of teaching/learning materials; the need to upgrade teachers' competency; and the lack of connection between political wisdom and grassroot realities. The delegations also observed that it was becoming very difficult to translate the intended curriculum into reality and some of them even mentioned resource constraints.

Further discussions highlighted the importance of a training programme on the management of curriculum change. The delegates expected two types of training materials: one for the curriculum developers at the national level, and the other for the curriculum implementers at the field level. It was felt that, while discussing such issues, the knowledge base at the global level should be borne in mind.

It was felt also that as most of the curriculum development problems were common to all countries, the training of a curriculum development and planning team could be arranged at an inter-country level with the assistance of the IBE. It was also proposed that the training activity of curriculum implementers, including teachers, be integrated with similar on going activities in these countries. Active co-operation was expected by the member countries regarding the methodologies to be adopted and the expected outcomes of such a training programme.

One of the major issues highlighted was that of the wide gap existing between the intended curriculum and the actual curriculum. Effective strategies need to be adopted to reduce this gap.

The priority need is that all member countries should focus on a quality curriculum with innovative practices, such as an integrated approach, an inter-disciplinary approach, a front-line approach and interactive classroom transactions aimed at higher levels of achievement.

Capacity-building programmes in management of curriculum change may focus on three phases of activities: preparatory meetings; training; and follow-up. The preparatory meeting is intended to discuss and identify the training needs and suggest strategies for the proposed training programme on the management of curriculum change. It may be undertaken with all the member countries forming a collective group, or with the countries participating individually.

The management of curriculum change covers three critical issues: one relates to change, another to the curriculum and the third to links between management and change. The parameters of change that need to be managed are syllabus, production of study material, training of teachers and other concerned functionaries, fine tuning of delivery systems, and ensuring that the management system remains responsive, participative and forward looking. The implementation of the curriculum depends to a great degree on the classroom teaching strategies that, in turn, depend on teachers' training, competence and commitment.

The approaches to the curricular interventions could be several, but care should be taken that these interventions are fine-tuned with existing structures. These may be frontline areas of learning, the constructivist approach, and the communicative approach to the teaching of language, the modular approach and interdisciplinary approaches to learning.

GROUP III: EVALUATION OF CURRICULUM CHANGE

I. A DEFINITION OF CURRICULUM EVALUATION

- **Curriculum**: all educational experiences prepared and planned by the school and offered to students in order to modify their behaviour and encourage them to achieve total development—growth.
- **Evaluation**: procedure followed by specialists to study to what extent the objectives of the curriculum have been achieved and to know the obstacles faced during implementation in order to overcome them.
- **Curriculum evaluation**: a continuous process for collecting information about all the elements and outcomes of the curriculum to help arrive at an understanding of the extent to which they have been achieved and subsequently take decisions to improve their efficacy.

II. WHY EVALUATION?

We evaluate in order to:

- avoid existing mistakes;
- expand knowledge;
- involve society in education and encourage interest in the importance of the curriculum;
- keep pace with the social changes;
- deal with societies in acceptance of results and outcome of education; and
- insure the importance of education reforms.

III. THE FUNCTIONS OF EVALUATION

- To provide us with a database of information regarding pedagogical processes.
- To provide us with information and to facilitate decision-making regarding the curriculum and its elements.
- The outcomes of evaluation are the basis for developing and modifying the curriculum.
- To discover ways of learning and finding the points of strength and weakness in the curriculum.
- To show students a productive pathway to learning.
- To discover the students' areas of strengths and weaknesses.
- To discover the aspects of teaching that require greater focus and efforts.
- To share with teachers all they need to **learn** to teach students better.

IV. CHARACTERISTICS OF EVALUATION

- Conformity with objectives.
- Complementarities.
- Credibility.
- Continuity.

V. EVALUATED ELEMENTS

- **Objectives**—clarity; limits achievable and suitable for evaluation.

- **Contents**—appropriate levels for the students; modern integration with other elements; achieving the objectives, infusing variety and information dissemination so that it is able to cope with the individual differences. Some elements used for evaluation of content include: probing, teachers' reports, meetings, and views of inspectors, parents, as well as specialists.
- **Methods of teaching and educational aids**—asking students and teachers about the efficiency appropriate to the methods through questionnaires, surveys, studies, and other evaluating teaching aids.
- **Evaluating students**—there are targeted classes to ensure achieving the objectives through essays, trends and attitude tests.
- **Evaluating teachers**—teachers are evaluated with regard to their efficiency, extent of achieving and implementing the curriculum, weakness in scientific and methods of teaching aspects, knowledge and information. They are evaluated by: inspectors, reports, student opinions, self-evaluation, written tests to discover competencies.

VI. NEEDS

- A way to test a teacher's efficiency.
- Follow-up for developmental evaluation.
- Comparing results of the previous and the new curriculum.
- Involving members of the society, parents, teachers in evaluating the new curriculum.
- Evaluation must be comprehensive, covering all the elements of the curriculum.

VII. EVALUATION OF THE WORK OF THE GROUP III

The group first considered the definitions of 'curriculum' and 'curriculum evaluation'. Curriculum is seen as being inclusive of not only goals, content and learning processes, but also that which is 'implicit curriculum' derived from the culture of the institutions themselves. Curriculum evaluation is the collection of information to arrive at judgements and decisions on the value of the curriculum.

Given these concepts, the task of curriculum evaluation, like the curriculum itself, is a continuous process. Evaluation is the process that enables continuity, as it provides the judgemental inputs regarding the efficiency and effectiveness of the various elements constituting the curriculum. With this approach, curriculum change is not a simple revolutionary operation, but an evolving, self-correcting and self-guiding process.

It was emphasized that the purpose of curriculum evaluation was to improve the quality of student learning and that, finally, the worth of evaluation must be assessed by the extent to which it succeeds in promoting such an understanding.

A variety of evaluation tools were discussed and it was noted that tests and examinations alone were inadequate to give a whole picture of the curriculum. Surveys, interviews, portfolios and other forms of evaluation were seen as valuable and authentic extensions. The role of teachers was seen as being crucial to the success of the curriculum and the means of appraising the effectiveness of teaching were discussed. These included visits to the classroom by principals and inspectors, interviews with teachers and obtaining the responses of students.

Major difficulties in developing good processes of curriculum evaluation arose from the shortage of people who were knowledgeable about the wide variety of evaluation tools. Capacity-building was seen as a major need, both through local institutions where there were suitable staff and through international organizations such as the IBE.

It was agreed that the development of indigenous capacity in evaluation was of the highest priority. The IBE could assist in this respect by providing consultants who might work with the Gulf States to produce a nucleus of evaluation specialists who could then work in their own countries to further develop and share their expertise.

Curriculum evaluation is an integral part of curriculum development and of especial importance to curriculum reform. It has today developed and designed a number of tools to deal with the complexities of the task. Enhancing the learning experience of students must always remain pivotal to any form of evaluation.

PART VII:

FINAL REPORT AND RECOMMENDATIONS APPROVED BY THE PLENARY

Final report and recommendations

I. SEMINAR PARTICIPANTS

The following educational institutions participated in the workshop:

- International Bureau of Education (IBE);
- Arab Bureau of Education for the Gulf States (ABEGS);
- Arab Gulf Co-operation Council Bureau of Education;
- Ministry of Education, Oman;
- Curriculum experts from Australia, India and Malta;
- Curriculum experts for the countries of the Arab Gulf Co-operation Council (AGCC).

II. SEMINAR MANAGEMENT

The seminar's activities and operations were managed as follows:

1. Workshop General Rapporteur: Mr Khalifa bin Ahmed bin Humaid Al Kassabi, Oman.

2. Drafting Committee

- Mr Khalifa bin Ahmed bin Humaid Al Kassabi, Oman.
- Mr Abdullah Ali el Faizi, Saudi Arabia.
- Mr Mohammed Ben Saif Ben Musbeh al Bousaïdi, Oman.
- Mr Mohammed ben Shames el Husni, Oman.
- Mrs Jeannine Thomas, IBE.
- Mrs Sabine Ferra de Cerda, IBE Consultant.

3. Management of daily sessions

- Saturday, 17 February 2001: Mrs Latifé Mohamad el Mahmoud, Bahrain.
- Sunday, 18 February 2001: Dr Obeid bin Butti Al-Muhairi, UAE.
- Monday, 19 February 2001: Mrs Aïcha el Redwan, Kuwait.
- Tuesday, 20 February 2001: Prof. Humaidan Al-Hamaidan, ABEGS.

The discussion was directed so as to benefit from the experts' opinions and to upgrade local capabilities.

4. Presentations

Country reports were presented as follows:

- **Bahrain:** Mrs Latifé Mohamed el Mahmoud presented the Bahrain paper, indicating that educational development in Bahrain was based on introducing learning through efficiency, and a list has been established of efficiencies that it is to be achieved at every stage, specifying the efficiency level as a reference for evaluation.
- **Kuwait:** Mrs Abla el Issa presented the Kuwaiti experience, which concentrated on new themes and projects, and on their introduction into the curricula, such as celebrations, elimination of illiteracy, swimming, computers in kindergarten, advanced educational management and teaching about computers.
- **Oman:** Dr Hamad Seif Al Hammami, Director-General of Curricula and Training, presented the paper 'Curricular development in Oman and the challenges of the twenty-first century', saying that the objectives for developing the Omani curricula were: to eliminate evening classrooms, to concentrate on quality and not quantity, to consider practical aspects of education, to develop higher mental capabilities and thinking for students, and to achieve complete basic education. He indicated that the development concentrated on the organizational structure of the Ministry, reconsidering the general objectives of educational stages and materials, developing an education plan, developing a syllabus, and introducing new syllabi and materials.
- **Saudi Arabia:** Mr Abudullah Ben Ali el Faiza presented the Saudi paper, saying that the production of schoolbooks passes through several legal, political, educational, scientific and linguistic reviews. Development has concentrated on the syllabus. The education plan was amended in terms of the number of classrooms and the introduction of the computer.
- **United Arab Emirates:** Dr Obeid Al-Muhairi talked about the role of the UAE in developing its curricula through several projects, including teaching English language from grade one, a computer teaching project, transforming libraries into teaching resource centres, creating language laboratories for English and Arabic languages, setting up Islamic studies laboratories and the rehabilitation of the classroom teacher.

5. Final recommendations

After the discussion of various reports and presentations, the Plenary Session adopted the following twenty-five recommendations to be submitted to the respective authorities:

1. All the papers are considered as official documents to be published by the IBE so that the experiences can be shared.
2. The importance of maintaining the national identity and Islamic customs, culture and values when implementing changes in the curricula.
3. The importance of finding a specific mechanism to introduce changes in a way acceptable to the teacher, not neglecting the training point of view, preparing the teacher to participate in the change and encouraging them by providing financial incentives and rewards.
4. There must be more co-ordination between the teacher-training faculties, ministries of education and schools.
5. To depend on local expertise when implementing changes, and utilize local consultants and the Internet.
6. Curricula should be directed to benefit from the new technology, such as computers in education, and not concentrate on learning about the computer itself.
7. Development plans should be prepared on a short-term basis—not more than five years—in order to keep pace with rapid developments around the world.
8. When changing curricula, the change should be planned in a manner that satisfies all the stakeholders.
9. When changing the curricula, it is important to carry out a proper training analysis for the teachers.
10. Constructive evaluation should be carried out while implementing, identifying problems and obstacles as they occur and monitoring the most important positive and negative aspects. The impact of the change on the various components in the curriculum, the teachers, students, educational activities and teaching strategies should be monitored and feedback provided to modify the process.
11. When contemplating changing the curricula, there should be a space for the reaction of various social groups (teachers, parents, public institutions, etc.). This is looked upon as a positive and healthy sign towards change, which indicates the community's culture and awareness towards modernization.
12. It is important to benefit from regional co-operation when implementing change in the curricula in order to share the experience.
13. The teachers' time should be reduced in order to give them opportunities for in-service training so as to implement the developed curricula.
14. A number of field operatives should be trained to prepare curricula, and to implement, supervise and manage the changes.
15. Teachers should be prepared to teach in the new field before introducing the syllabus, such as in economics and life skills.
16. Train teachers before introducing the syllabus.
17. Prepare a media campaign to raise public awareness of the objectives of change in the curricula, and the role of society in relation to the change.
18. Include the use of the UNESCO Internet site when training teachers for the management of curriculum change.
19. To take advantage of workshop and training sessions organized by the IBE to improve the skills of supervisors and implementers of curriculum change.
20. To organize local workshops inspired by this workshop.
21. During the International Conference on Education organized by the IBE in Geneva, to raise the topic of introducing international exchange concerning curriculum change.
22. To set up a networked database in ABEGS similar to that of the IBE.
23. To give enough time for planning in connection with curriculum change.
24. To ask the Ministries of Education of the Arabic Gulf countries to share with the IBE their experiences and innovations in the field of education which have been already carried out and those that are planned for the future.
25. To ask the participants of this workshop to send an official letter thanking the Omani Minister of Education.

ANNEX I: THE GULF REGION AT A GLANCE

I. SOME STATISTICS

TABLE 1. Population, schooling and illiteracy

Country	Total population	GNP per capita ($)	Gross enrolment ratio: primary (%)	Gross enrolment ratio: secondary (%)	Gross enrolment ratio: third level (%)	Illiteracy rate (%)
UAE	2,100,000	17,400	89	79	11,9	20,8
Kuwait	2,100,000	17,390	77	65	19	21,4
Oman	2,070,000	4,820	77	66	6,4	28.1
Qatar	539,00	11,600	97	81	27	22,9
Saudi Arabia	16,900,000	7,150	76	61	16	29,2
Bahrain	538,000	7,840	106	94	18	17,7

Source: IBE. *World data on education*, 2000; *The Europa World Yearbook*, 2000; *UNESCO Statistical yearbook*, 1999.

TABLE 2. Illiteracy rates according to the *UNESCO statistical yearbook, 1999*

Country	Year 1995 Mean	Year 2000 Mean	Year 2000 Men	Year 2000 Women
Bahrain	14.7	12.4	17.3	9.0
UAE	26.2	23.5	20.5	24.8
Kuwait	20.7	17.7	20.1	15.7
Oman	36.0	28.1	38.3	19.6
Qatar	20.7	18.7	16.8	19.5
Saudi Arabia	27.8	23.0	32.8	15.9

Note: According to the *UNESCO statistical yearbook*, the overall illiteracy rate in the Arab States was 31.0% for men and 57.2% for women in 1995.

II. DEGREE OF DEPENDENCY ON OIL REVENUE

Bahrain: Petroleum and natural gas are nearing exhaustion (1998: petroleum production around 37,600 barrels per day; output of natural gas was 7,900 m.cu. per year).

Kuwait: Petroleum refineries account for 68.4% of manufacturing activities in 1998. The production of petroleum and its derivatives is the most important industry in Kuwait, providing 88.7% of export revenue in 1998.

Oman: Petroleum and natural gas provide 30.1% of total GDP in 1998.

Qatar: Petroleum and natural gas provide 36.8% of total GDP in 1998.

Saudi Arabia: Petroleum and natural gas provide 27,5% of total GDP in 1998.

UAE: Petroleum provided 45% of total export revenues in 1994 and 34% of GDP in 1995.

(Source: *The European world yearbook*, 2000.)

III. THREE ASPECTS OF CURRICULUM DEVELOPMENT IN THE REGION

- Emphasizing traditional values of education;
- Promoting science evaluation; and
- Taking innovative measures.

1. Emphazing traditional values of education

Countries of the region are quite conscious of the value of their cultural heritage. Islamic studies have a particular place in a school's curriculum. They also pay particular attention to strengthening relations with other Arab and Islamic countries of the Gulf Region as an integral part of their education policy.

We read in the *National report* of the United Arab Emirates on the development of education (1993–96) that among the objectives of the education system are (1) inculcating faith in God, his prophets, moral and human values; (2) inculcating pride in Arab nationalism, the nation itself and the homeland.

Qatar in its *National report* of 1996 puts the two following principles among the main principles of education: inculcating belief in Allah and developing sense of affiliation and loyalty to homeland, to religion and to the whole Arab nation. In Oman's *National report* (1996), see the section on Omani characteristics.

2. Promoting science education

The access to the most advanced scientific and technological knowledge is emphasized in all these countries in addition to creating stronger links between education and the labour market.

We read in Oman's *National report* (1996):

The Ministry of education is busily engaged in innovating and developing the educational system in Oman in order to cope with the scientific and technological innovations of recent years of this century and to be prepared for the next century (p. 2–3).

The Ministry of Education in Kuwait (*National report*, 1996) considers five main objectives for its action in facing the challenges of future including:

Realizing the aspiration of developing the Kuwaiti citizen in keeping with modern scientific concepts and developing the students' capabilities at all levels of education so that they may absorb the necessary scientific methods and their practical applications in all areas required by society.

To make world culture accessible to Kuwaiti students within the framework of the ongoing scientific and technical revolution, while stressing the importance of the Arab and Islamic heritage in developing spiritual values, in strengthening basic principles and the sense of belonging to the homeland.

We read in the 1996 *National report* of Qatar among the main objectives of the education:[1]

Providing students with an access to the advanced knowledge and useful sciences, promoting the love and acquisition of knowledge, the attitudes and skills of self-learning; the constant search for knowledge and investing its resources to create an ever learning society (p. 11).

3. Innovative measures

It seems that most of the Arab Gulf Region countries are committed to some form of reform or improvement of educational process. Some of them have already asked a group of external experts to visit the country and its educational institutions in order to offer suggestions for reforms. For example, UNESCO's Regional Bureau of Education in the Arab Countries (Lebanon) sent in 1999 some experts to Kuwait who proposed 'a strategy for discipline and education in Kuwait to the year 2025', with particular emphasis on curriculum change and improvement of education's contents. The British Council has submitted in 1998 to the same country a set of ideas about the 'development of a competence-based education and training system in Kuwait'.

The report of the Working Group for Educational Innovations Project, under the title of *Educational innovations in Bahrain* (1995), contains a wealth of information about improvement measures taken in this country, including those in the field of curriculum development. The report shows that the new contents, such as environment, health education and family life education, have entered into the school system and that there is a course at the secondary school level on 'computer as a subject and a tool'.

The Kingdom of Saudi Arabia, as the report of 1996 testifies, is also keen on 'providing schools with up-to-date educational services including computers, laboratory equipments and all other sophisticated apparatus'.

The national report of Saudi Arabia (1996) informs us that curriculum development directorates receive the comments and suggestions from the teachers, principals and inspectors and make the necessary evaluation and revision if required in line with scientific research' (p. 20)

Development of technical education and linking it with national development plans and building up of comprehensive schools have been the target of another project undertaken by the United Arab Emirates Ministry of Education between 1997 and the year 2000. The integration of disabled students into mainstream education has received attention since 1995–96 in the same country.

The United Arab Emirates in its 1996 *National report* refers to some of the reforms undertaken there in various aspects of the educational systems. This report says:

It is generally agreed that the principal basis for present and future reforms is the respect and esteem given to the teachers, because of their role in improving the education process and realizing the objective of those developments. Various programs have to be prepared to develop their professional skills and scientific background (p. 30).

Another measure of reform in the same country is the 'introduction of technology and environmental education in the curriculum at all levels of education' (p. 32).

We learn from INNODATA that the United Arab Emirates embarked from 1991 to 1997 on a revision of its school curriculum for the primary, preparatory and secondary stages so as to include topics of international education. To that end, both interdisciplinary and multidisciplinary approaches have been adopted.

Kuwait has also launched from 1994–95 an on going project to develop the abilities of slow learners and handicapped children.

Already in 1990 Qatar had introduced a reform intended to diversify the secondary education programme (*National report*, 1996, p. 13). Curriculum

development in Qatar aims at both the improvement of content and of methods; computer science has been introduced in the curriculum; school libraries have been established; and educational research has been promoted.

According to INNODATA, Qatar introduced female teachers in a number of primary schools (from 1990 on) and transformed them with the creation of an attractive environment to model schools, an experiment that proved to be successful.

In co-operation with ABEGS, the country started (1990–91) to examine curriculum and textbooks development in the other Arab States in order to raise the standard and effectiveness of Qatari curricula.

The improvement measures taken in Oman according to its *National report* of 1996 are directed toward: (1) qualitative improvement; (2) participation of parents in school affairs; (3) training of school headmasters; (4) consolidation of educational supervision and inspection; and (5) promotion of 'educational evaluation' (p. 11–15).

Another important feature of the Gulf Region is the existence of regional institutions that contribute to furthering co-operation between the respective countries in a number of fields, including education, such as ABEGS. In addition to that, as far as science and technology are concerned, bilateral relations with the most advanced countries in the West bring fresh ideas to this vital region of the world.[2]

IV. SOME INITIATIVES IN THE FIELD OF TEACHER TRAINING

One of the fundamental problems in the Gulf Region is the inadequacy of both the quantity and the quality of teaching staff. A 1999 report of the UNESCO team to Kuwait refers to the following problems: [3]

a) the weakness of professional and technical qualifications and capacities among many teachers;
b) an insufficient number of Kuwaiti teachers in many specialized fields;
c) an insufficient professional commitment among the teachers and a lack of creativity and innovation in that job;
d) an improper distribution of teachers in both private and public sectors and at different educational levels.

In the case of the United Arab Emirates, most of the teachers are from other Arab countries.[4] Oman has taken energetic measures to overcome that problem. In 1994–95, there were eight teacher-training colleges in that country. In Bahrain, it is the university that plays a major role in pre-service training of educational staff, but it is the Directorate of Training at the Ministry of Education that is responsible for further in-service training of teachers.[5]

Saudi Arabia has no other alternative than recruiting non-Saudi teachers of different nationalities 'who are mostly working in the distant villages and towns where most of the Saudi teachers are reluctant to work' (*National report*, 1996, p. 5)

V. MOVING TOWARD LIFELONG EDUCATION

Bahrain (*National report*, 1994–96) organizes some language courses as continuing education. Some secretarial courses (such as computer and typewriting) and a programme of family life education (for women only) are also offered. A post-literacy programme is also organized in some countries. In addition to non-formal education the United Arab Emirates organizes literacy courses for street children and other disadvantaged children and offers some adult education and community programmes (*National report*, 1996, p. 67–68). There exists nowhere a real overall structure for lifelong education.

VI. EDUCATIONAL RESEARCH

In the areas of educational research and planning, all these countries are faced with the scarcity of high-level human resources. In UAE, the Department of Information and Research within the Ministry of Education is entrusted with part of research responsibilities. The Ministry of Education in Qatar has established a special sector for educational planning and curricula. All these countries seem to need exchange of information, experience, and even management between themselves in those two areas.[6] At the same time, they have to benefit from the larger world experiences directly or through the Internet (the IBE's INNODATA could be of great help to them).

There is hope that, with the strengthening of national universities, greater progress will be achieved in the field of educational research indispensable for any educational planning.

Notes

1. Similar objectives can be found in other national reports (Oman, p. 4; the United Arab Emirates talks about bridging the gap in technological achievements, p. 19).
2. Reference has already been made to the report of the British Council about technical education in Kuwait (1998). There also exists a report of an ILO mission to Kuwait on 'development of strategic planning for applied education and training' (1993).
3. Shapour Rassekh: *Kuwait at the threshold of a new millennium* (report of a mission to Kuwait), 1999.
4. Egypt, Iraq and Palestinian Autonomous Territories have been providing teachers for the Gulf Region before recent events.
5. See *The development of education in Bahrain 1994–96*, p. 80–84.
6. The following regional institutions can be of great assistance: Arab Bureau of Education for Gulf States; Arab League Educational, Cultural and Scientific Organization; Islamic Organization for Education, Culture and Science; Arab Gulf Programme of the United Nations Development Programme; and the Regional Bureau of UNESCO.

VII. COMPARATIVE TABLES CONCERNING CURRICULUM IN THE GULF REGION COUNTRIES

TABLE 3. Number of weekly periods devoted to Islamic and science education in each year

Country	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Total periods (weeks)
Kuwait	3	3	3	2	2	30–32
Oman	5	5	5	4	4	30
Qatar	6	6	6	5	5	33–36
Saudi Arabia	9	9	9	8	8	30–34
Number of weekly periods for science education in each year						
Kuwait	-	-	3	3	3	30–32
Oman	-	3	3	4	4	30
Qatar	-	4	4	4	4	33–36
Saudi Arabia	-	3	3	4	4	30–34

TABLE 4. Place of physical education in the yearly programme (Number of weekly period)

Country	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Total periods (weeks)
Kuwait	-	2	2	2	2	30–32
Oman	-	2	2	2	1	30
Qatar	-	3	2	2	2	33–36
Saudi Arabia	-	2	2	2	1	30–34

Includes biology, geology, physics, chemistry and general science.
Source of data: IBE. 2000. *Draft educational profiles.*

ANNEX II: OPENING AND CLOSING SPEECHES

SPEECH AT THE OPENING CEREMONY, MUSCAT, 17 FEBRUARY 2001

By Dr Hamed Saif Al Hammami
Director-General of Curriculum and Training, Ministry of Education, Sultanate of Oman

It gives me great pleasure to welcome you all, especially those who have come from outside Oman to participate in this workshop about 'The Management of Curriculum Change and Adaptation'. I would like to take this opportunity to wish you all a pleasant stay in our lovely country.

It is a great honour for us to host this valuable and important workshop in collaboration with the International Bureau of Education. This workshop is similar to other workshops that were held in Geneva in 1998, in New Delhi in 1999 and in Beijing in the year 2000. In the next five days, this workshop will address the following six topics:

- strategies of managing changes and revisions in curricula, focusing on international experiences. We shall also discuss developing and planning curricula with regard to the selection of course content and the ways of integrating these curricula;
- the development of curricula taking into account feedback and evaluation obtained from the field;
- learner-centred teaching methods that aim to activate the learners' participation in a learning situation;
- methods of introducing extra activities that will enrich the school curricula;
- training teachers on how curricula are implemented and developed; and
- a review of the experiences of other countries in the Gulf Region in developing and revising curricula, their management of the change and development processes, the difficulties that have faced these countries during the process, and the methods used to overcome these difficulties.

Developed and developing countries from all over the world are currently engaged in advancing their education systems to cope with the knowledge explosion, developments in technology and globalization.

Curriculum occupies an important position in educational development and is considered as being the backbone of the process. If the education system is to continue to be effective and to achieve its projected objectives and outcomes, development and revision of the curricula is inevitable. Concerns over the various processes of curricula—such as developing, planning, organizing, implementing and evaluating —have been increasing in recent years. This is mainly because of the role these processes play in forming of children's characters to cope with the requirements and changes of life today and in the future.

Based on our appreciation of the importance of the role played by education in social and economic development, we are prepared for the twenty-first century with all its scientific, cultural and technological challenges. The Sultanate of Oman endeavours to develop and innovate general education in a way that matches modern life and copes with the objectives of comprehensive development of our future generations. Observers of educational developments in the Sultanate of Oman realize the achievements that have been made over more than a quarter of a century. History witnesses and records the birth of this educational development which started with the great Omani renaissance in July 1970, which has placed Oman in its strong position in the same level as countries who started their development many years ahead of us.

The Ministry of Education has set up an ambitious plan to develop education. The objective of this plan is to develop the abilities of individuals and prepare students to play their designated roles effectively and efficiently in an age that is marked with scientific and technological developments in all aspects of life. The development plan has adapted the concept of basic education, a type of education that involves integration of theory and practice, ideas and work, and education and life. With its comprehensive view, basic education works to develop all aspects of the individual's character and to provide the student with independent learning skills within the framework of the concept of continuous lifelong education. It also develops values and practices necessary for achieving skilfulness in teaching and learning. In addition, it meets the needs of human development as part of comprehensive social development.

Development of curricula has also included several related areas, some of these being:

1. the development of the organizational structure of the Ministry that has resulted in the formation of a Directorate General of Curricula and Training;

2. a review of general objectives of educational levels and school subjects;
3. the development of school programmes and plans;
4. the development of courses and the introduction of new school subjects;
5. the development of stages of writing and producing textbooks;
6. the development of educational evaluation; and
7. the development of educational supervision and inspection.

This workshop is concerned with the 'Management of Curriculum Change and Adaptation'. In our opinion, it is difficult to define the concept of 'curriculum' as many concomitants have been attached to this concept, not only among lay people, but also among specialists. Some specialists have defined 'curriculum' as the school programmes, courses or subjects that are learnt by learners. Others have added on further activities that could complement the curriculum, while yet others have defined curriculum as a set of facts, concepts and information relevant to a certain school subject. In fact, 'curriculum' is all educational experiences that learners are involved with inside and outside the school in order to acquire these experiences to develop themselves in all aspects of their characters, and to build and adjust their behaviours in accordance with the educational objectives.

According to this concept, the curriculum is much more than a school textbook. An integrated process includes the written curriculum, the hidden curriculum, the taught curriculum, and the learnt curriculum. In addition to the subjects' written curricula, we have to include learning multimedia, technology and the environment in which we live.

It is not an easy task to develop an education system and corresponding curricula. A very complicated process, it affects and is affected by all political, social and economic systems within society, as well as systems outside. The influences of globalization and its requirements of development are not concealed. The distances between different ends of the global village are getting shorter by the day.

The vast quantum of knowledge and the development of technological systems that accompany it will embarrass education systems if these systems do not keep pace. Education systems, from our point of view, should prepare students to obtain information that meets their individual requirements for development and for entering the labour market.

At the end of this address I pray to Almighty Allah to crown our efforts with success, and that all of us shall benefit from this workshop.

I would like also to seize this opportunity to thank—on behalf of the Ministry of Education—the International Bureau of Education for the support and help that it offers Gulf countries to promote and develop their education systems. Our thanks also are extended to the Omani National Committee of Education, Culture and Science and to all those who have contributed to the preparation of this workshop. I would like also to thank our honourable guests for their participation in this gathering, and all those who have responded to our invitation.

SPEECH AT THE OPENING CEREMONY, MUSCAT, 17 FEBRUARY 2001

By Ms C. Braslavsky
Director, International Bureau of Education

It gives me great pleasure to address you briefly at the opening of this Regional Seminar on management of curriculum adaptation jointly organized by the Omani National Commission for UNESCO, high-level educational authorities of this country and the International Bureau of Education.

This seminar follows in the footsteps of a number of seminars, workshops and training courses that have taken place in different regions of the world[1] as part of the new focal programme of the IBE. Our key objectives in augmenting the educational contents to encounter the challenges of the twenty-first century are:

- to make participants from different countries aware of common concerns about the curriculum;
- to introduce them to modern approaches to curriculum design and implementation;
- to launch a dialogue on possible regional co-operation; and
- to analyse the needs and possibilities of improving the practical and conceptual skills in these matters.

Only a couple of years ago, the IBE was designated as the UNESCO centre for the content of education and we have since been reorienting its activities towards the adaptation of curricula to cope with the challenges of the twenty-first century, with specific focus on education for learning to live together. UNESCO and IBE consider that education based on the four 'pillars'[2] advocated by the Delors Report is quintessential in view of the prevalent global situation, where, despite phenomenal socio-economic, scientific and technological progress, humankind's flirtation with wars, conflicts and arbitrary inequities continue unabated in many parts of the world.

Asia received our particular attention because of its vastness. It is time to enlarge the vision. The present seminar follows on three previous ones in Asia organized in Delhi (March 1999), Beijing (March 2000) and Thailand (December 2000). In keeping with its innovative focus, the IBE has been organizing a series of seminars both for the exchange of experiences and training on matters related to curriculum development and adaptation in various geographic regions, as one of its principal activities.

In addition to seeking to identify trends in curriculum development in the different regions to help build a better knowledge base from which to work with the Member States, the IBE wishes to evolve a series of training modules for the strengthening of transversal skills for curriculum development. Rather than focusing

on the more traditional aspects of curriculum development, that of content and its renewal and adaptation to new trends and needs, the IBE, through its capacity-building seminars wishes to develop and fortify transversal skills/competencies, the mastery of which it is felt will give a boost to the curriculum development process.

We are aware of the fact that many countries in this part of the world are already committed to some degree of reforms in their educational curricula. It is therefore an ideal opportunity for the IBE to collaborate more closely not only with Regional Bureaux of UNESCO in Qatar and Lebanon as well as with ABEGS, but also with individual countries in the Gulf Region.

All these experiences will be of great interest to ignite the debates at the forthcoming International Conference on Education that is going to be held in Geneva in September this year. The theme of this session will be 'Education for all for learning to live together: content and learning strategies—problems and solutions'.

The choice of venue was due to the great generosity of the Omani authorities. The Oman Sultanate, which has been a member in the IBE's Governing Council, offered sometime back to host an IBE meeting on curriculum issues. We are very grateful to all persons in high positions who made possible this excellent choice for such a meeting.

The IBE sees the development of networking among institutions and individuals in the different regions to be an essential component of capacity-building, and seeks to promote this among participants attending its workshops. Sharing of information and expertise among curriculum professionals on regional and international levels amplifies resources and reinforces professional and institutional developments. However, networking only takes place if there is a felt need experienced by those it benefits.

The new Director-General of UNESCO, in a recent speech, referred to five top priority areas for the Organization: education for all throughout life and learning to live together; the preservation and enhancement of cultural pluralism; the ethics of science and technology; solution to environmental problems; and finally, movement towards a global information society. Mr K. Matsuura suggested a range of imperative reforms in the Organization to empower it to take on these new global challenges. As he indicated 'framing effective policies in these areas calls for much more interdisciplinary research and for information exchanges, capacity-building, better training and sustained partnerships with the academic and scientific communities, in order to assist the search for integrated approaches' (see *INNOVATION*, no. 104). The IBE intends to apply these policies to its own areas of activities. Healthier communion with countries, concerted work ethos, capacity-building in closer proximity and with a collaborative spirit, greater emphasis on interdisciplinary and transversal approaches, and finally, an assiduous exchange of information on successful experiences and best practices in the area of curriculum are some of the core policy guidelines that will be pursued.

I sincerely hope that during this five-day seminar, our sharing of experiences and expertise, exploration of shared problems, and discussion of promising solutions will result in consolidating the process of curriculum development in the countries of the region, and lead to fertile and lasting working relationships.

Thank you very much.

Notes

1. In South and South-East Asia (1999), in Latin America (1999 and 2000), in the Mediterranean region (1999 and 2000), in East Asia (2000), in Africa (2000) and in Thailand (2000).
2. Learning to know, learning to do (acquisition of skills and competences), learning to be (acquisitions of human qualities and virtues) and finally learning to live with other people in peace and harmony (co-operation, solidarity, etc.).

SPEECH AT THE CLOSING CEREMONY, MUSCAT, 21 FEBRUARY 2001

By Mr Shapour Rassekh
IBE Consultant

On behalf of Ms Cecilia Braslavsky, Director of the IBE, and my colleagues, I should like to convey to the distinguished authorities of the host country our deep gratitude for their most appreciated co-operation in organizing this seminar. All of us felt grateful to his excellency the Omani Minister of Education, her honorable under-secretary, Mrs. Fuzia Nasser Al Farsi, his honorable under-secretary, Mr. Muhammed Attoubi, present today, as well as to the eminent members of the National Commission for Education, Science and Culture, for having offered such generous hospitality to the seminar's participants. Our warm thanks go also to the respected representatives of the regional institutions, ABEGS and UNESCO's Office in Qatar, who participated so actively and constructively in the deliberations. We also thank wholeheartedly all delegates of various Gulf countries who brought to this seminar not only their vision but also their rich experience in matters of curriculum development. I should like to express our feeling of appreciation to our three knowledgeable experts from Australia, India and Malta, who gracefully shared with us their huge experience and wisdom.

It was the first experience of working contact of our institution, IBE, with this important region of the world. Therefore, we learned lots from you, benefited greatly from your analysis of problems, solutions and needs in the area of curriculum adaptation in this region. The signs of will-power and courage of your political leaders have impressed us, who are pushing education towards being relevant to the growing needs of our times. We became acquainted with the efforts the educational authorities, teachers and other stakeholders in this area

are devoting to the renewal of your education systems and to the adaptation of school curricula to the challenges of modern time. Our visit to a basic education school today created in all of us a sense of admiration for your achievement in modernizing schools, but at the same time promoting basic moral and spiritual values. You, as experts in education and curriculum development, are quite aware of inadequacies, but you are also searching courageously for solutions and remedies. Be sure that the IBE will be at your side and will help you to the extent of its capacity to develop your expertise and your skills in making the curriculum adaptation a success, whenever the need is felt. Our information network will be at your disposal in a number of areas, which might be of interest for your work. We will expect also your collaboration in providing us with adequate and regularly up dated information regarding the situation of education in your respective countries.

Concerning innovating ideas, lots can be obtained through workshops and seminars like this one, and through INNODATA that the IBE has established and put at the disposal of all countries. No doubt, it is vitally important that you consolidate co-operative relations within the region, but at this time of globalization, the region will benefit also from interaction with the outside world. We hope that our experts present here from different parts of the world have given you an idea of what we can learn from the experiences of other nations.

I feel happy that this seminar led to a useful report on the results. We can build our future relations of co-operation on that basis. Our intention is to prepare a comprehensive report of this seminar, including all the contributions already made, and publish it, in co-operation with you, in the course of this year for the benefit of all. We hope that specific characteristics of the region will be reflected in this publication, as well as its common problems with the rest of the world. We should also consider this seminar as a preparation for the active participation of your respective countries in the forthcoming International Conference on Education next September on the theme of 'living together in the twenty-first century'.

In the course of the seminar, we said and repeated that the emphasis in 'education for the twenty-first century' will be increasingly on learning instead of teaching. It is therefore appropriate to quote the following sentence from the beautiful book *Oman 2000* you offered us: 'The major shift in the curriculum will be away from rote learning, and emphasis will be put on encouraging students to develop scientific and logical thinking, as well as acquiring skills of analysis and problem-solving.' It is our hope that not only Oman but all countries of the region, through the continuous efforts of their educationists, their curriculum designers and their teachers, will succeed in reaching that sort of ambitious aim, forming a more competent, skilled, thoughtful, responsible and co-operative generation to face the challenges of the century ahead of us.

Thank you for your attention.

ANNEX III: LIST OF PARTICIPANTS

BAHRAIN

Mrs Mariam Mohamad Matar
Specialist of Mathematics Curricula
Direction of Curricula
Ministry of Education and Teaching
BP 43
MANAMA

Mrs Latifé Mohamad el Mahmoud
Specialist of Arabic Language Curricula
Direction of Curricula
Ministry of Education and Teaching
BP 43
MANAMA

KUWAIT

Mrs Abla el Issa
Head of Progammes Unit
Ministry of Education
P.O. Box 7
SAFAT
Fax: (965) 4837898

Mrs Aïcha el Redwan
Head for Technical Guidance for Arabic Language
Ministry of Education
P.O. Box 7
SAFAT

OMAN

Mr Mohamad Ben Saif Ben Musbeh al Bousaïdi
Deputy-Director of Science and Mathematics Department
Ministry of Education
P.O. Box 3
MUSCAT
Tel.: (968) 695 944
Fax: (968) 602 528
E-mail: moemscd@omantel.net.om

Mrs Mahssoumah Bint Habib el Ajami
Responsible of Curriculum Development
Department of Arabic Language Programmes
Ministry of Education
P.O. Box 3
MUSCAT

Mr Hadi Ahmad el Faraji
In Charge of the Geography
Department of Social Sciences
Ministry of Education
P.O. Box 3
MUSCAT

Mrs Shehira Issa Bint Nasser el Ismaïili
Head of Section for English
Department of English-Language Programmes
Ministry of Education
P.O. Box 3
MUSCAT
E-mail: ShehiraS2@hotmail.com

Mrs Charifa bint Zahrane Bint Mohamad el Kanadi
Member of the Department for Family Education
Department of Social Sciences
Ministry of Education
P.O. Box 3
MUSCAT

Mr Kassen Ben Mohamad Ben Massoud Al Khalifein
Member of the Mathematics Programme
Department of Sciences and Mathematics
Ministry of Education
P.O. Box 3
MUSCAT

Mr Yime Mounes
Expert in the English Language Programmes
Department of English Language Programmes
Ministry of Education
P.O. Box 3
MUSCAT

Mr Abdullah ben Marhoon ben Muhammad-el-Isaï
Chief
Department of Islamic Education
Ministry of Education
P.O. Box 3
MUSCAT

Mr Muhammad ben Saoud ben Salem el Hazrami
Training Section

Ministry of Education
P.O. Box 3
MUSCAT

Mr Salim ben Muhammad el Jaberi
Ministry of Education
P.O. Box 3
MUSCAT
E-mail: Salim99@hotmail.com

Mr Rashid Hamed Saleh el Ghanbossi
Ministry of Education
P.O. Box 3
MUSCAT
E-mail: asuwaeih@omantel.net.om

Mr Rashid ben Saïd el Hinaï
Technical Section
Ministry of Education
P.O. Box 3
MUSCAT
E-mail: Rashidal-hinaicomer2001@yahoo.com

Mr Muhammad ben Shames el Husni
Supervision
Ministry of Education
P.O. Box 3
MUSCAT
E-mail: MSM102@hotmail.com

Mr Ibrahim ben Saïd ben Hamd-el-Ravahi
Teacher of History
MUSCAT

Mr Hamad ben Salem el Rajahi
Responsible of Curriculum Development
Department of Islamic Education
Ministry of Education
P.O. Box 3
MUSCAT

Mrs Jane Noates
Project Manager (English)
Ministry of Education
P.O. Box 3
MUSCAT
E-mail: janenoates@yahoo.com

Mrs Asma Bint Salem Bin Rached Al Belushi
Director of the Technical Office for Studies and Development
Department of Science and Mathematics
Ministry of Education
P.O. Box 3
MUSCAT
E-mail: Asooom300@hotmail.com
Abahrani@omantel.net.om

OMANI OBERSERVERS

Mr Al Bahrani Mahir Ahmed
Education Planner
Ministry of Education
MUSCAT
Tel.: (968) 775.290
Fax: (968) 707.463

Mr Suleiman Mohamad
Expert in Statistical Analysis
Examination Department
Ministry of Education
MUSCAT
Tel.: (968) 775.327

Mr Al Rayad Osman Talballa
Expert in Education
Ministry of Education
MUSCAT
Tel.: (968) 775.677
Fax: (968) 798.483
E-mail: rayah3@hotmail.com

Mr Rashid M. Khalfan Al Khaifi
Director
Training and Professor Development
Ministry of Education
MUSCAT
Tel.: (968) 694.122
Fax: (968) 694.108
E-mail: traindep@omantel.net.om

Mr Hamood Khalfan Said Al Nasseri
Deputy Director of Training
Department of Mathematics
Ministry of Education
MUSCAT
Tel. (968) 605.016
Fax: (968) 694.108
E-mail: alnasri@omantel.net.om

Mr Rashid M. Khalfan Al Khaifi
Director
Training and Professor Development
Ministry of Education
MUSCAT
Tel.: (968) 694.122
Fax: (968) 694.108
E-mail: traindep@omantel.net.om

Mrs. Nahla Hamed Al Kindi
Director of Science and Mathematics Department
Ministry of Education
MUSCAT
Tel.: (968) 698.040
Fax: (968) 602.528
E-mail: moe.mscd@omantel.net.om

Mrs Janet Mohammed Al Lamki
Director of English Language
Curriculum Department
Ministry of Education
MUSCAT
Tel.: (968) 694.751
Fax: (968) 698.303
E-mail: moeelcd@omantel.net.om

Mr Mofreh Mahmod Ajlan
Educational Planner
Ministry of Education
MUSCAT
Tel.: (968) 775.290
Fax: (968) 707.463

Mr Musa Gasm El Seed Al Malik
Educational Expert
Systems and Performance Follow-up Department
Ministry of Education
MUSCAT
Tel.: (968) 775.328
Fax: (968) 798.483

Mr Al Tayib Mustaffa Al Nour
Science Curriculum Specialist
Private Education Department
Ministry of Education
MUSCAT
Tel. (Private): (249) 541.22.047

SAUDI ARABIA
Mr Abudullah Ben Ali el Faizi
Responsible of Cultural Relations for Girls Department
Ministry of Education
RIYADH

UNITED ARAB EMIRATES
Dr Obeid bin Butti Al-Muhairi
Director
Centre for Curriculum and Instructional Materials Development
Ministry of Education and Youth
3062 DUBAI
Tel.: (971) 04–299.40.91
Fax: (971) 04–299.45.18
E-mail: ereaser@emirates.net.ae
Hist2000@hotmail.com

Dr Ibrahim Ahmed Ali Alnaqbi
Educational Expert
Curriculum Development Center
Ministry of Education and Youth
KHORFAKKAN
Tel.: (971) 04–606.93.61
Mobile: (971) 050–629.48.11
Fax: (971) 04–299.45.18

UNESCO OFFICE IN QATAR
Mr M. Bubtana
Director
UNESCO Office in Qatar
P.O. Box 3945
DOHA
Tel.: (974)-486.77.07; (974)-486.77.08
Fax: (974)-486.76.44
E-mail: Doha@unesco.org

ABEGS
Prof Humaidan A. Al-Humaidan
First Counsellor
ABEGS Office
P.O. Box 86386
RIYADH 22614
Kingdom of Saudi Arabia
Tel.: (966) 1–480.05.55, Ext. 340
Mobile: (966) 05-542.03.42

IBE
Mrs Cecilia Braslavsky
Director
IBE
P.O. Box 199
1211 GENEVA 20
Switzerland
Tel.: (41) 22–917.78.26
Fax: (41) 22–917.78.01
E-mail: C.braslavsky@ibe.unesco.org

Mrs Jeannine Thomas
Programme Specialist
IBE
P.O. Box 199
1211 GENEVA 20
Switzerland
Tel.: (41) 22–917.78.43
Fax: (41) 22–917.78.01
E-mail: J.thomas@ibe.unesco.org

CONSULTANTS
Mr Shapour Rassekh
5, rue Albert Gos
1206 GENEVA
Switzerland
Tel.: (41) 22–347.21.20

Mrs Sabine Ferra de Cerda
3 Chemin des Floralies
COINTRIN
Switzerland
Tel.: (41) 079–47.81.432

CONTRIBUTORS
Mr Mohammed Saleem Al Yacoubi
Vice-Secretary-General
Omani National Commission for UNESCO

Ministry of Education
P.O. Box 3
Code: 112
MUSCAT
Mobile: (968) 938.09.20
Tel.: (968) 695.956
Fax: (968) 708.485

Dr Hamed Saif Al Hammami
Director-General
General Directorate of Curricula and Training
Ministry of Education
P.O. Box 3
P.C. 113
MUSCAT
Tel.: (968) 601.014
Fax: (968) 694.038
E-mail: alhammami@hotmail.com

EXPERTS

Mr. Ashok Ganguly
Chairman
Central Board of Secondary Education
Shiksha Kendra
2, Community Centre
Preet Vihar
NEW DELHI-110092
India
Tel.: (91) 11-246.72.63
Fax: (91) 11-221.58.26
E-mail: Cbsedli@nda.vsnl.net.in

Mr Phillip W. Hughes
Professor
Australian National University
5 Liversidge St.
CANBERRA 0200
Australie
Tel.: (61-2) 62.79.85.84
Fax: (61-2) 62.49.49.59
E-mail: Phillip.hughes@anu.edu.aus

Mr Anthony Macelli
Adviser to Minister
Ministry of Education
Great Siege Street
FLORIANA CMR02
Malta
Tel. (work): (356) 221.401
Tel. (home): (356) 493.253
Fax (work): (356) 221.634
Fax (home): (356) 493.253
E-mail: Tony.macelli@magnet.mt
Tonynora@maltanet.net

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Topics for PROSPECTS in 2001 — Volume XXXI

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